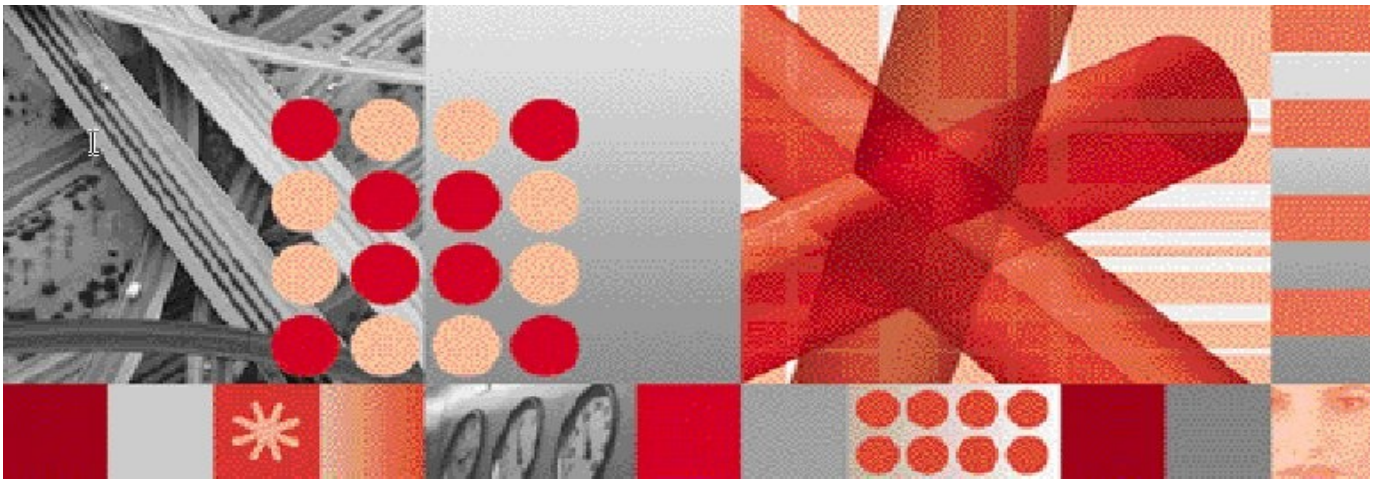
Tivoli Netcool® Performance Manager for Wireless



GPRS Huawei GGSN V900R007 C03 Product Requirements

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This edition applies to IBM® Tivoli® Netcool® Performance Manager for Wireless and to all subsequent releases and modifications until otherwise indicated in new editions.

1 Change History

Issue	Date	Author	Comments
1.0	10 Mar 2011	IBM	Fixpack Released

2 Outstanding Issues

Number	Date	Description	Planned Resolution
N/A			

This edition applies to IBM® Tivoli® Netcool® Performance Manager for Wireless and to all subsequent releases and modifications until otherwise indicated in new editions.

3 Vendor Measurement Scope

The table below lists the vendor OM groups that are in scope for this tech pack module, broken down by network element, together with their corresponding tech pack KPI group.

Vendor Measurement	Tech Pack KPI Group
APN - Mapped with M134221244.GGSN_ID & "/" & APN_ID	
M134221235	APN.Huawei.GPRS.GTPV1_APN_session
M134221236	APN.Huawei.GPRS.GTPV0_APN_session
M134221237	APN.Huawei.GPRS.APN_status
M134221239	APN.Huawei.GPRS.APN_AAA
M134221244	APN.Huawei.GPRS.APN_Transport
M134221252	APN.Huawei.GPRS.APN_session_by_traffic_class
M134221259	APN.Huawei.GPRS.IMS_session
M134221265_APN	APN.Huawei.GPRS.Gx_interface_performance_APN
M134221268_APN	APN.Huawei.GPRS.PCC_Session_APN
CG_IP - Mapped with M134221234.GGSN_ID & "/" & CG_IP_ID	
M134221234	CG_IP.Huawei.GPRS.GTPP
GGSN - Mapped with M134221228.GGSN_ID	
M134221228	GGSN.Huawei.GPRS.Basic_session_IPV6
M134221228	GGSN.Huawei.GPRS.Basic_session
M134221229	GGSN.Huawei.GPRS.IPV6_transport
M134221229	GGSN.Huawei.GPRS.SBR_traffic
M134221229	GGSN.Huawei.GPRS.Transport
M134221230	GGSN.Huawei.GPRS.G_CDR

M134221231	GGSN.Huawei.GPRS.GTPP
M134221232	GGSN.Huawei.GPRS.AAA
M134221240	GGSN.Huawei.GPRS.PPPC
M134221241	GGSN.Huawei.GPRS.L2TP
M134221242	GGSN.Huawei.GPRS.Intelligent_service
M134221243	GGSN.Huawei.GPRS.DHCP
M134221245	GGSN.Huawei.GPRS.MIP_FA
M134221248	GGSN.Huawei.GPRS.Signal_message_error_cause
M134221249	GGSN.Huawei.GPRS.Basic_session_by_traffic_class
M134221250	GGSN.Huawei.GPRS.GTP_data_by_traffic_class
M134221250	GGSN.Huawei.GPRS.GTP_signal_by_traffic_class
M134221250	GGSN.Huawei.GPRS.IP_data_by_traffic_class
M134221251	GGSN.Huawei.GPRS.Users_number
M134221253	GGSN.Huawei.GPRS.IMS_basic_session
M134221254	GGSN.Huawei.GPRS.Layer7_parser
M134221255	GGSN.Huawei.GPRS.Gy_interface
M134221256	GGSN.Huawei.GPRS.Prepay
M134221257	GGSN.Huawei.GPRS.MBMS
M134221258	GGSN.Huawei.GPRS.Different_service_PDP_context
M134221260	GGSN.Huawei.GPRS.CLIT
M134221264_GGSN	GGSN.Huawei.GPRS.Gx_interface_performance_GGSN
M134221267_GGSN	GGSN.Huawei.GPRS.PCC_Session_GGSN
M134221700	GGSN.Huawei.GPRS.Tunnels
GGSN_Board - Mapped with M134221233.GGSN_ID & "/" & FN_ID & "-" & GGSN_BOARD_ID	
M134221233	GGSN_Board.Huawei.GPRS.System_resource

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M134221261	GGSN_Board.Huawei.GPRS.Flow_nodes
GPRS_Tunnel - Mapped with M134221701.GGSN_ID & "/" & Object_ID	
M134221701	GPRS_Tunnel.Huawei.GPRS.Tunnels
HPLMN - Mapped with M134221246.GGSN_ID & "/" & MCC_ID & "/" & MNC_ID	
M134221246	HPLMN.Huawei.GPRS.HPLMN_session
IMSI - Mapped with M134221238.GGSN_ID & "/" & IMSI_ID	
M134221238	IMSI.Huawei.GPRS.User_bill
PCRF - Mapped with M134221267.GGSN_ID & "/" & Object_ID or M134221266.GGSN_ID & "/" & Object_ID	
M134221266	PCRF.Huawei.GPRS.Gx_interface_performance_PCRF
M134221269	PCRF.Huawei.GPRS.PCC_Session_PCRF
Physical_Port - Mapped with M134221264_PORT.GGSN_ID & "/" & Object_ID	
M134221264_PORT	Physical_Port.Huawei.GPRS.Physical_port
Processor - Mapped with M134221262.GGSN_ID & "/" & PROC_ID	
M134221262	Processor.Huawei.GPRS.Service_resources
M134221263	Processor.Huawei.GPRS.System_resources
SGSN_IP - Mapped with M134221247.GGSN_ID & "/" & SGSN_IP_ID	
M134221247	SGSN_IP.Huawei.GPRS.SGSN_session

4 Tech Pack Prerequisites

This section lists the Tech Pack modules that the current Tech Pack is dependent on, in alphabetical order.

- HUA GOMlet
- Neutral Core GOM
- Neutral GPRS/UMTS CN GOM
- Neutral GPRS BSS GOM
- Neutral GSM BSS/NSS GOM
- Neutral UMTS UTRAN GOM

5 Network Model

This section describes any network objects that are defined in this technology pack module, in terms of their configuration attributes.

5.1 APN details

In the network hierarchy, the immediate parent of the APN object is GGSN.

Attribute Name	Description	Read-Only?	Time-Tracked?	Mapping	Aggregator
Primary Identifier					
APN_Id	A unique identifier for the APN.	Y		M134221244.GGSN_ID & "/" & APN_ID	
Relationship Attributes					
GGSN_Id	A unique identifier for the GGSN.	Y	Y	M134221244.GGSN_ID	
Region_Id	Region associated with the APN.	Y	Y	lookup("nc_ggsn","region_id",utime(START_DATE & " " & START_TIME, "%Y-%m-%d %R"), M134221244.GGSN_ID)	
Network_Id	Network associated with the APN.	Y	Y	M134221244.NETWORK_ID	
Configuration Attributes					
APN_Name	A user friendly name preferably unique for the APN.			M134221244.GGSN_ID & "/" & APN_ID	
APN_Type	Type of APN.			No mapping	
APN_Version	Hardware/Software version of the APN.			No mapping	

Technology	Technology of the network/element (e.g. GSM, GPRS, UMTS).			"GPRS"	

5.2 CG_IP details

In the network hierarchy, the immediate parent of the CG_IP object is Network.

Attribute Name	Description	Read-Only?	Time-Tracked?	Mapping	Aggregator
Primary Identifier					
CG_IP_Id	Primary identifier of the Charging Gateway IP address	Y		M134221234.GGSN_ID & "/" & CG_IP_ID	
Relationship Attributes					
Region_Id	Identifier of the region	Y	Y	M134221234.REGION_ID	
Network_Id	Identifier of the Network	Y	Y	M134221234.NETWORK_ID	
Configuration Attributes					
CG_IP_Name	Meaningful name of the CG IP			M134221234.GGSN_ID & "/" & CG_IP_ID	
CG_Id	Identifier of the Charging Gateway			"Populated by the customer"	

5.3 GGSN_Board details

In the network hierarchy, the immediate parent of the GGSN_Board object is GGSN.

Attribute Name	Description	Read-Only?	Time-Tracked?	Mapping	Aggregator
Primary Identifier					

GGSN_Board_Id	Primary identifier of the GGSN Board	Y		M134221233.GGSN_ID & "/" & FN_ID & "-" & GGSN_BOARD_ID	
Relationship Attributes					
GGSN_Id	Identifier of the GGSN	Y	Y	M134221233.GGSN_ID	
Region_Id	Identifier of the GGSN region	Y	Y	lookup("nc_ggsn","region_id",utime(START_DATE & " " & START_TIME, "%Y-%m-%d %R"), M134221233.GGSN_ID)	
Network_Id	Identifier of the Network	Y	Y	M134221233.NETWORK_ID	
Configuration Attributes					
GGSN_Board_Name	Meaningful name for the GGSN Board			M134221233.GGSN_ID & "/" & FN_ID & "-" & GGSN_BOARD_ID	

5.4 GGSN details

In the network hierarchy, the immediate parent of the GGSN object is Region.

Attribute Name	Description	Read-Only?	Time-Tracked?	Mapping	Aggregator
Primary Identifier					
GGSN_Id	A unique identifier for the GGSN.	Y		M134221228.GGSN_ID	
Relationship Attributes					
Region_Id	Region associated with the GGSN.	Y	Y	M134221228.REGION_ID	
DHCP_Id	A unique identifier for the DHCP.	Y	Y	No mapping	
Radius_Id	A unique identifier for the Radius.	Y	Y	No mapping	
DNS_Id	A unique identifier for the DNS.	Y	Y	No mapping	
Network_Id	Network associated with the GGSN.	Y	Y	M134221228.NETWORK_ID	

Configuration Attributes					
GGSN_Name	A user friendly name preferably unique for the GGSN.			M134221228.GGSN_ID	
GGSN_IP_Address	IP address of the GGSN.			"Populated by the customer"	
GGSN_Version	Hardware/Software version of the GGSN.			"R007"	
Max_Subscriber	Maximum number of subscribers supported by the GGSN.			No mapping	
Max_PDP	Maximum number of PDP sessions supported by the GGSN.			No mapping	
Max_PDP_per_Subscriber	Maximum number of PDP sessions supported per subscriber by the GGSN.			No mapping	
Max_Traffic_Rate	Maximum supported traffic rate of the GGSN.			No mapping	
PDP_Session_Timeout	Timeout period for PDP sessions.			No mapping	
PDP_Idle_Timeout	Idle timeout period for PDP sessions.			No mapping	
Technology	Technology of the network/element (e.g. GPRS, UMTS).			"GPRS"	

5.5 GPRS_Tunnel details

In the network hierarchy, the immediate parent of the GPRS_Tunnel object is GGSN.

Attribute Name	Description	Read-	Time-Track	Mapping	Aggregator

		Only ?	ed?		
Primary Identifier					
GTP_Id	A unique identifier for the GPRS Tunnel.	Y		M134221701.GGSN_ID & "/" & Object_ID	
Relationship Attributes					
GGSN_Id	A unique identifier for the GGSN.	Y	Y	M134221701.GGSN_ID	
Region_Id	Region associated with the GPRS Tunnel.	Y	Y	M134221701.REGION_ID	
SGSN_Id	A unique identifier for the SGSN.	Y	Y	No mapping	
Network_Id	Network associated with the GPRS Tunnel.	Y	Y	M134221701.NETWORK_ID	
Configuration Attributes					
GTP_Name	A user friendly name preferably unique for the GPRS Tunnel.			M134221701.GGSN_ID & "/" & Object_ID	
GTP_Version	Hardware/Software version of the GPRS Tunnel.			No mapping	
GTP_PDP_Capacity	Number of PDP sessions supported by the GPRS Tunnel.			No mapping	
GTP_Role	GPRS Tunnel usage.			No mapping	
GTP_status	Status of the GPRS Tunnel.			No mapping	
Technology	Technology of the network/element (e.g. GPRS, UMTS).			"GPRS"	

5.6 HPLMN details

In the network hierarchy, the immediate parent of the HPLMN object is Network.

Attribute Name	Description	Read-	Time-Track	Mapping	Aggregator

		Only ?	ed?		
Primary Identifier					
HPLMN_Id	Primary identifier of the Home PLMN	Y		M134221246.GGSN_ID & "/" & MCC_ID & "/" & MNC_ID	
Relationship Attributes					
Region_Id	Region associated with the HPLMN.	Y	Y	M134221246.REGION_ID	
Network_Id	Network associated with the HPLMN	Y	Y	M134221246.NETWORK_ID	
Configuration Attributes					
HPLMN_Name	Meaningful name of the HPLMN			M134221246.MCC_ID & "/" & MNC_ID	
HPLMN_Info	Description/free information about the HPLMN			"Populated by the customer"	
HPLMN_Type	Type of the HLMN (e.g. Partner)			"Populated by the customer"	

5.7 IMSI details

In the network hierarchy, the immediate parent of the IMSI object is Network.

Attribute Name	Description	Read-Only ?	Time-Tracked?	Mapping	Aggregator
Primary Identifier					
IMSI_Id	Primary identifier of the International Mobile Station Identifier	Y		M134221238.GGSN_ID & "/" & IMSI_ID	
Relationship Attributes					

Network_Id	Network associated with the IMSI	Y	Y	M134221238.NETWORK_ID	
Configuration Attributes					
IMSI_Name	Meaningful name of the International Mobile Station Identifier			M134221238.GGSN_ID & "/" & IMSI_ID	
IMSI_Info	Optional free information and description for the IMSI			"Populated by the customer"	

5.8 Network details

Attribute Name	Description	Read-Only?	Time-Tracked?	Mapping	Aggregator
Primary Identifier					
Network_Id	A unique identifier for the Network.	Y		M134221228.NETWORK_ID	
Configuration Attributes					
Network_Name	A user friendly name preferably unique for the Network.			M134221228.NETWORK_ID	
Network_Type	Type of Network (e.g. GSM-900, GSM-1800 or GSM-1900).			M134221228."GPRS"	
Default_Link_Speed	The default speed of SS7 Signalling Links in this network.			M134221228.64000	

5.9 PCRF details

In the network hierarchy, the immediate parent of the PCRF object is Region.

Attribute Name	Description	Read-Only?	Time-Tracked?	Mapping	Aggregator

Primary Identifier					
PCRF_ID	The primary identifier of the PCRF	Y		M134221267.GGSN_ID & "/" & Object_ID or M134221266.GGSN_ID & "/" & Object_ID	
Relationship Attributes					
Region_Id	Identifier of the region	Y	Y	M134221267.REGION_ID or M134221266.REGION_ID	
Network_Id	Identifier of the network	Y	Y	M134221267.NETWORK_ID or M134221266.NETWORK_ID	
Configuration Attributes					
PCRF_Name	The meaningful name of the PCRF			M134221267.GGSN_ID & "/" & Object_ID or M134221266.GGSN_ID & "/" & Object_ID	
Technology	Technology of the SGSN			M134221267."GPRS" or M134221266."GPRS"	

5.10 Physical_Port details

In the network hierarchy, the immediate parent of the Physical_Port object is GGSN.

Attribute Name	Description	Read-Only?	Time-Tracked?	Mapping	Aggregator
Primary Identifier					
Physical_Port_ID	The primary identifier of the Physical_Port	Y		M134221264_PORT.GGSN_ID & "/" & Object_ID	
Relationship Attributes					
GGSN_Id	Identifier of the GGSN	Y	Y	M134221264_PORT.GGSN_ID	
Region_Id	Identifier of the GGSN	Y	Y	M134221264_PORT.REGION_	

	region			ID	
Network_Id	Identifier of the Network	Y	Y	M134221264_PORT.NETWORK_ID	
Configuration Attributes					
Physical_Port_Name	The meaningful name of the Physical_Port			M134221264_PORT.GGSN_ID & "/" & Object_ID	

5.11 Processor details

In the network hierarchy, the immediate parent of the Processor object is Region.

Attribute Name	Description	Read-Only?	Time-Tracked?	Mapping	Aggregator
Primary Identifier					
Processor_Id	A unique identifier for the Processor.	Y		M134221262.GGSN_ID & "/" & PROC_ID	
Relationship Attributes					
Region_Id	Region associated with the Processor.	Y	Y	M134221262.REGION_ID	
Network_Id	Network associated with the Processor.	Y	Y	M134221262.NETWORK_ID	
Configuration Attributes					
Processor_Name	A user friendly name preferably unique for the Processor.			M134221262.GGSN_ID & "/" & PROC_ID	
Processor_Type	Type of Processor.			No Mapping	
Technology	Technology of the network/element (e.g. GSM, GPRS, UMTS).			"GPRS"	
Node_Id	This is the identifier for the network element containing the Processor.			M134221262.GGSN_ID	
Node_Name	A user friendly name preferably unique for the			M134221262.GGSN_ID	

	Node.				
Node_Type	The type of the network element containing the Processor.			"GGSN"	
Processor_Version	Hardware/Software version of the Processor.			"R007"	

5.12 Region details

In the network hierarchy, the immediate parent of the Region object is Network.

Attribute Name	Description	Read-Only?	Time-Tracked?	Mapping	Aggregator
Primary Identifier					
Region_Id	Region associated with the network object.	Y		M134221228.REGION_ID	
Relationship Attributes					
Network_Id	Network associated with the Region.	Y	Y	M134221228.NETWORK_ID	
Configuration Attributes					
Region_Name	A user friendly name preferably unique for the Region.			M134221228.REGION_ID	

5.13 SGSN_IP details

In the network hierarchy, the immediate parent of the SGSN_IP object is SGSN.

This object is used for Data Availability tracking

Attribute Name	Description	Read-Only?	Time-Tracked?	Mapping	Aggregator

Primary Identifier					
SGSN_IP_Id	Primary identifier of the SGSN IP address	Y		M134221247.GGSN_ID & "/" & SGSN_IP_ID	
Relationship Attributes					
SGSN_Id	Identifier of the SGSN	Y	Y	No mapping	
Region_Id	Identifier of the region	Y	Y	M134221247.REGION_ID	
Network_Id	Identifier of the network	Y	Y	M134221247.NETWORK_ID	
Configuration Attributes					
SGSN_IP_Name	Meaningful name of the SGSN IP			M134221247.GGSN_ID & "/" & SGSN_IP_ID	
Technology	Technology of the SGSN			"GPRS"	

6 Busy Hours

This section lists the busy hours which are defined for the technology pack module.

Each of the busy hours listed can be referenced within this document by way of a busy hour acronymn, which is included in the table below.

Object	Busy Hour	Defining KPI	Acronym
APN	Huawei_APN_PDP_Busy_Hour	APN.Huawei.APN_status.Average_active_PDP_context	huaactpbh
GGSN	Huawei_GGSN_Traffic_Busy_Hour	GGSN.Huawei.Transport.Total_Gn_Gi_packets	hugbpbh
GGSN	Huawei_GGSN_PDP_Busy_Hour	GGSN.Huawei.Basic_session.Avg_act_PDP_context	hugactpbh
Processor	Huawei_Processor_CPU_Busy_Hour	Processor.Huawei.System_resources.Peak_CPU_usage	hupcbh

7 Performance Indicators

This section describes the performance indicators (both one-to-one counter mappings, and complex KPIs) that are defined in this technology pack module, grouped by the network object to which they relate, as follows:

- APN performance indicators.
- CG_IP performance indicators.
- GGSN performance indicators.
- GGSN_Board performance indicators.
- GPRS_Tunnel performance indicators.
- HPLMN performance indicators.
- IMSI performance indicators.
- PCRF performance indicators.
- Physical_Port performance indicators.
- Processor performance indicators.
- SGSN_IP performance indicators.

7.1 APN Performance Indicators

This section shows the key performance indicators and other counters for the APN object, divided into the following sub-sections:

- APN.Huawei.GPRS.APN_AAA
- APN.Huawei.GPRS.APN_session_by_traffic_class
- APN.Huawei.GPRS.APN_status
- APN.Huawei.GPRS.APN_Transport
- APN.Huawei.GPRS.GTPV0_APN_session
- APN.Huawei.GPRS.GTPV1_APN_session
- APN.Huawei.GPRS.Gx_interface_performance_APN
- APN.Huawei.GPRS.IMS_session
- APN.Huawei.GPRS.PCC_Session_APN

7.1.1 APN.Huawei.GPRS.APN_AAA

APN AAA performance measurement

KPI	Type	Data Type	Description	Derivation	Default Aggrega	Other Aggrega

					tor	tors
_%_Accounting_request_success	INTENSITY	FLOAT	Successful rate of accounting request sent by GGSN	M134221239.G134706786	Average	huaactpbh, hugactpbh, hugbpbh, Maximum, Minimum, Sum
_%_Authentication_request_success	INTENSITY	FLOAT	Successful rate of access request sent by GGSN	M134221239.G134706783	Average	huaactpbh, hugactpbh, hugbpbh, Maximum, Minimum, Sum
Accounting_start_request	ACCUMULATION	INTEGER	Attempts of accounting start request sent from GGSN to AAA server	M134221239.G134706785	Sum	huaactpbh, hugactpbh, hugbpbh
Accounting_start_success	ACCUMULATION	INTEGER	Successful times of accounting start request sent from GGSN to AAA server	M134221239.G134706784	Sum	huaactpbh, hugactpbh, hugbpbh
Accounting_stop_request	ACCUMULATION	INTEGER	Attempts of accounting stopping request sent from GGSN to AAA server	M134221239.G134706790	Sum	huaactpbh, hugactpbh, hugbpbh

Accounting_stop_success	ACCUMULATION	INTEGER	Successful times of accounting stopping request sent from GGSN to AAA server	M134221239.G134706789	Sum	huaactpbh, hugactpbh, hugbpbh
Authentication_request_success	ACCUMULATION	INTEGER	Successful times of authentication request sent from GGSN to AAA server	M134221239.G134706781	Sum	huaactpbh, hugactpbh, hugbpbh
Authentication_request	ACCUMULATION	INTEGER	Attempts of authentication request sent from GGSN to AAA server	M134221239.G134706782	Sum	huaactpbh, hugactpbh, hugbpbh
Illegal_AAA_message_received	ACCUMULATION	INTEGER	Times of receiving invalid packets by GGSN from AAA server	M134221239.G134706791	Sum	huaactpbh, hugactpbh, hugbpbh
Realtime_accounting_request_success	ACCUMULATION	INTEGER	Successful times of real-time accounting request sent from GGSN to AAA server	M134221239.G134706787	Sum	huaactpbh, hugactpbh, hugbpbh
Realtime_accounting_request	ACCUMULATION	INTEGER	Attempts of real-time accounting request sent from GGSN to AAA server	M134221239.G134706788	Sum	huaactpbh, hugactpbh, hugbpbh

7.1.2 APN.Huawei.GPRS.APN_session_by_traffic_class

Active APN session dispatched by traffic class (low, medium and high)

KPI	Type	Data	Description	Derivation	Default	Other

		Type			Aggregator	Aggregators
Active_background_class_PDP_context	INTENSITY	INTEGER	Number of the APN-based PDP context, based on background traffic class	M134221252.G134706967	Average	huaactpbh, hugactpbh, hugbpbh, Maximum, Minimum, Sum
Active_conversational_class_PDP_context	INTENSITY	INTEGER	Number of the APN-based PDP context, based on conversational traffic class	M134221252.G134706964	Average	huaactpbh, hugactpbh, hugbpbh, Maximum, Minimum, Sum
Active_interactive_class_PDP_context	INTENSITY	INTEGER	Number of the APN-based PDP context, based on interactive traffic class	M134221252.G134706966	Average	huaactpbh, hugactpbh, hugbpbh, Maximum, Minimum, Sum
Active_PDP_context_with_hign_priority	INTENSITY	INTEGER	Number of the APN-based PDP context, based on user high priority	M134221252.G134706963	Average	huaactpbh, hugactpbh, hugbpbh, Maximum, Minimum, Sum

Active_PDP_context_with_low_priority	INTENSITY	INTEGER	Number of the APN-based PDP context, based on user low priority	M134221252.G134706961	Average	huaactpbh, hugactpbh, hugbpbh, Maximum, Minimum, Sum
Active_PDP_context_with_medium_priority	INTENSITY	INTEGER	Number of the APN-based PDP context, based on user medium priority	M134221252.G134706962	Average	huaactpbh, hugactpbh, hugbpbh, Maximum, Minimum, Sum
Active_streaming_class_PDP_context	INTENSITY	INTEGER	Number of the APN-based PDP context, based on streaming traffic class	M134221252.G134706965	Average	huaactpbh, hugactpbh, hugbpbh, Maximum, Minimum, Sum

7.1.3 APN.Huawei.GPRS.APN_status

APN status measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
Active_PDP_context	INTENSITY	INTEGER	Activated PDP contexts in GGSN by an APN	M134221237.G134706619	Average	huaactpbh, hugactpbh, hugbpbh, Maximum, Minimum, Sum

Average_active_PDP_context	INTENSITY	INTEGER	Average number of PDP contexts activated by an APN in the GGSN	M134221237.G134706633	Average	huaactpbh, hugactpbh, hugbpbh, Maximum, Minimum, Sum
Average_IP_addresses_allocated_to_MS	INTENSITY	FLOAT	Average number of local IP addresses allocated by the GGSN	M134221237.G134706637	Average	huaactpbh, hugactpbh, hugbpbh, Maximum, Minimum, Sum
Gn_Received_Packets	ACCUMULATION	INTEGER	Number of signaling messages sent from an APN and received by the GGSN Gn	M134221237.G134706634	Sum	huaactpbh, hugactpbh, hugbpbh
Gn_Sent_Packets	ACCUMULATION	INTEGER	Number of signaling messages sent from the GGSN Gn to an APN	M134221237.G134706635	Sum	huaactpbh, hugactpbh, hugbpbh
IP_addresses_allocated_to_MS	ACCUMULATION	INTEGER	Number of IP addresses allocated by the GGSN to MS	M134221237.G134706621	Sum	huaactpbh, hugactpbh, hugbpbh
Max_active_PDP_context	INTENSITY	INTEGER	The maximum activated PDP contexts in GGSN by an	M134221237.G134706620	Average	huaactpbh, hugactpbh,

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			APN			hugbpbh, Maximum, Minimum, Sum
Maximum_IP_addresses_allocated_to_MS	INTENSITY	INTEGER	Maximum number of local IP addresses allocated by the GGSN.	M134221237.G134706638	Average	huaactpbh, hugactpbh, hugbpbh, Maximum, Minimum, Sum
Subcribers_with_PDP_context_act	ACCUMULATION	INTEGER	Number of subscribers with PDP context activation	M134221237.G134706636	Sum	huaactpbh, hugactpbh, hugbpbh
Total_number_of_DHCP_address_release	ACCUMULATION	INTEGER	Number of requests for IP address release that are sent to the DHCP SER	M134221237.G134706622	Sum	huaactpbh, hugactpbh, hugbpbh
Total_number_of_DHCP_address_request	ACCUMULATION	INTEGER	Number of requests for IP address allocation that are sent to the DHCP SER	M134221237.G134706623	Sum	huaactpbh, hugactpbh, hugbpbh
Total_number_of_successful_DHCP_address_request	ACCUMULATION	INTEGER	Number of successful IP address allocation by the DHCP SER	M134221237.G134706624	Sum	huaactpbh, hugactpbh, hugbpbh

7.1.4 APN.Huawei.GPRS.APN_Transport

APN Transport performance measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregat	Other Aggrega

					or	tors
APN_Average_packet_throughput	INTENSITY	FLOAT	Average forwarding rate of both APN Gn and APN Gi interfaces in statistics period	M134221244.G134706889	Average	huaactpbh, hugactpbh, hugbpbh, Maximum, Minimum, Sum
APN_destination_address_invalid_packets	ACCUMULATION	INT8	Number of invalid destination address packets that are based on APN	M134221244.G134706914	Sum	huaactpbh, hugactpbh, hugbpbh
APN_DL_transport_success_ratio	INTENSITY	FLOAT	APN Gn Downlink packets/APN Gi Downlink packets *100%	M134221244.G134706893	Average	huaactpbh, hugactpbh, hugbpbh, Sum, Minimum, Maximum
APN_Downlink_in_MB	ACCUMULATION	INT8	Downlink forwarding bytes on APN Gn and Gi interface in statistics period	{APN_Gn_Downlink_in_MB} + {APN_Gi_Downlink_in_MB}	Sum	huaactpbh, hugactpbh, hugbpbh
APN_Gi_Downlink_in_KB	ACCUMULATION	INT8	Downlink forwarding bytes on APN Gi interface in statistics period	M134221244.G134706897	Sum	huaactpbh, hugactpbh, hugbpbh

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APN_Gi_Downlink_in_MB	ACCUMULATION	INT8	Downlink forwarding bytes on APN Gi interface in statistics period	M134221244.G134706887	Sum	huaactpbh, hugactpbh, hugbpbh
APN_Gi_Downlink_packets	ACCUMULATION	INTEGER	Downlink forwarding packets on APN Gi interface in statistics period	M134221244.G134706888	Sum	huaactpbh, hugactpbh, hugbpbh
APN_Gi_Uplink_in_KB	ACCUMULATION	INT8	Uplink forwarding bytes on APN Gi interface in statistics period	M134221244.G134706896	Sum	huaactpbh, hugactpbh, hugbpbh
APN_Gi_Uplink_in_MB	ACCUMULATION	INT8	Uplink forwarding bytes on APN Gi interface in statistics period	M134221244.G134706885	Sum	huaactpbh, hugactpbh, hugbpbh
APN_Gi_Uplink_packets	ACCUMULATION	INTEGER	Uplink forwarding packets on APN Gi interface in statistics period	M134221244.G134706886	Sum	huaactpbh, hugactpbh, hugbpbh
APN_Gn_Downlink_in_KB	ACCUMULATION	INT8	Downlink forwarding bytes on APN Gn interface in statistics period	M134221244.G134706895	Sum	huaactpbh, hugactpbh, hugbpbh
APN_Gn_Downlink_in_MB	ACCUMULATION	INT8	Downlink forwarding bytes on APN Gn interface in statistics period	M134221244.G134706883	Sum	huaactpbh, hugactpbh, hugbpbh
APN_Gn_Downlink_packets	ACCUMULATION	INTEGER	Downlink forwarding packets on APN Gn	M134221244.G134706884	Sum	huaactpbh, hugactpbh,

			interface in statistics period			hugbpbh
APN_Gn_Uplink_in_KB	ACCUMULATION	INT8	Uplink forwarding bytes on APN Gn interface in statistics period	M134221244.G134706894	Sum	huaactpbh, hugactpbh, hugbpbh
APN_Gn_Uplink_in_MB	ACCUMULATION	INT8	Uplink forwarding bytes on APN Gn interface in statistics period	M134221244.G134706881	Sum	huaactpbh, hugactpbh, hugbpbh
APN_Gn_Uplink_packets	ACCUMULATION	INTEGER	Uplink forwarding packets on APN Gn interface in statistics period	M134221244.G134706882	Sum	huaactpbh, hugactpbh, hugbpbh
APN_packets_exceed_1500_bytes	ACCUMULATION	INTEGER	Downlink forwarding packets exceed 1500 bytes on APN Gi interface in statistics period	M134221244.G134706891	Sum	huaactpbh, hugactpbh, hugbpbh
APN_Peak_packet_throughput	INTENSITY	INTEGER	Maximum value of forwarding rate of both APN Gn and APN Gi interfaces in statistics period	M134221244.G134706890	Average	huaactpbh, hugactpbh, hugbpbh, Maximum, Minimum, Sum
APN_redirect_packets	ACCUMULATION	INT8	Number of redirect packets that are based	M134221244.G134706915	Sum	huaactpbh, hugactpb

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			on APN			h, hugbpbh
APN_source_address_invalid_packets	ACCUMULATION	INT8	Number of invalid source address packets that are based on APN	M134221244.G134706913	Sum	huaactpbh, hugactpbh, hugbpbh
APN_UL_transport_success_ratio	INTENSITY	FLOAT	APN Gi Uplink packets/APN Gn Uplink packets *100%	M134221244.G134706892	Average	huaactpbh, hugactpbh, hugbpbh, Sum, Minimum, Maximum
APN_Uplink_Downlink_in_MB	ACCUMULATION	INT8	Uplink and downlink forwarding bytes on APN Gn and Gi interface in statistics period	{APN_Gn_Uplink_in_MB} + {APN_Gi_Uplink_in_MB} + {APN_Gn_Downlink_in_MB} + {APN_Gi_Downlink_in_MB}	Sum	huaactpbh, hugactpbh, hugbpbh
APN_Uplink_in_MB	ACCUMULATION	INT8	Uplink forwarding bytes on APN Gn and Gi interface in statistics period	{APN_Gn_Uplink_in_MB} + {APN_Gi_Uplink_in_MB}	Sum	huaactpbh, hugactpbh, hugbpbh
Gn_incoming_signalling_kbytes	ACCUMULATION	INT8	Incoming signaling packets Kbytes received by the Gn interface based on the APN	M134221244.G134706916	Sum	huaactpbh, hugactpbh, hugbpbh
Gn_outgoing_signalling_kbytes	ACCUMULATION	INT8	Outgoing signaling packets Kbytes sent by the Gn	M134221244.G134706917	Sum	huaactpbh, hugactpbh,

			interface based on the APN			hugbpbh

7.1.5 APN.Huawei.GPRS.GTPV0_APN_session

GTPv0 APN session measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
_%_Dynamic_address_act_session_succeed	PERCENTAGE	FLOAT	Percentage of successful dynamic PDP context activation program initiated by MS	100 * {GTPv0_Dynamic_address_activate_session_succeed}/ {GTPv0_Dynamic_address_activate_session_request}	Average	huaactpbh, hugactpbh, hugbpbh
_%_GGSN_deactivate_session_succeed	PERCENTAGE	FLOAT	Percentage of successful PDP context deactivation program initiated by GGSN	100 * {GTPv0_GGSN_deactivate_session_succeed}/ {GTPv0_GGSN_deactivate_session_request}	Average	huaactpbh, hugactpbh, hugbpbh
_%_GGSN_modify_session_succeed	PERCENTAGE	FLOAT	Percentage of successful PDP context modification program initiated by GGSN	100 * {GTPv0_GGSN_modify_session_succeed}/ {GTPv0_GGSN_modify_session_request}	Average	huaactpbh, hugactpbh, hugbpbh
_%_MS_deactivate_session_succeed	PERCENTAGE	FLOAT	Percentage of successful PDP context deactivation program initiated by MS	100 * {GTPv0_MS_deactivate_session_succeed}/ {GTPv0_MS_deactivate_session_request}	Average	huaactpbh, hugactpbh, hugbpbh

_%_MS_modify_session_succeed	PERCENTAGE	FLOAT	Percentage of successful PDP context modification program initiated by MS	100 * {GTPv0_MS_modify_session_succeed}/ {GTPv0_MS_modify_session_request}	Average	huaactpbh, hugactpbh, hugbpbh
GTPv0_Dynamic_address_activate_session_request	ACCUMULATION	INTEGER	Attempts of dynamic PDP context activation program initiated by MS	M134221236.G134706604	Sum	huaactpbh, hugactpbh, hugbpbh
GTPv0_Dynamic_address_activate_session_succeed	ACCUMULATION	INTEGER	Successful times of dynamic PDP context activation program initiated by MS	M134221236.G134706605	Sum	huaactpbh, hugactpbh, hugbpbh
GTPv0_GGSN_deactivate_session_request	ACCUMULATION	INTEGER	Attempts of PDP context deactivation program initiated by GGSN	M134221236.G134706608	Sum	huaactpbh, hugactpbh, hugbpbh
GTPv0_GGSN_deactivate_session_succeed	ACCUMULATION	INTEGER	Successful times of PDP context deactivation program initiated by GGSN	M134221236.G134706609	Sum	huaactpbh, hugactpbh, hugbpbh
GTPv0_GGSN_modify_session_request	ACCUMULATION	INTEGER	Attempts of PDP context modification program initiated by GGSN	M134221236.G134706612	Sum	huaactpbh, hugactpbh, hugbpbh
GTPv0_GGSN_modify_session_succeed	ACCUMULATION	INTEGER	Successful times of PDP context	M134221236.G134706613	Sum	huaactpbh, hugactpb

			modification program initiated by GGSN			h, hugbpbh
GTPv0_MS_act_PDP_context_success_ratio	INTENSITY	INTEGER	Successful rate of PDP context activation program initiated by 2G MS	M134221236.G134706603	Average	huaactpbh, hugactpbh, hugbpbh, Maximum, Minimum, Sum
GTPv0_MS_activate_PDP_context_satisfy_QOS	ACCUMULATION	INTEGER	Times of PDP context activation QOS promising initiated by MS	M134221236.G134706614	Sum	huaactpbh, hugactpbh, hugbpbh
GTPv0_MS_activate_session_request	ACCUMULATION	INTEGER	Attempts of PDP context activation program initiated by MS	M134221236.G134706601	Sum	huaactpbh, hugactpbh, hugbpbh
GTPv0_MS_activate_session_succeed	ACCUMULATION	INTEGER	Successful times of PDP context activation program initiated by MS	M134221236.G134706602	Sum	huaactpbh, hugactpbh, hugbpbh
GTPv0_MS_deactivate_session_request	ACCUMULATION	INTEGER	Attempts of PDP context deactivation program initiated by MS	M134221236.G134706606	Sum	huaactpbh, hugactpbh, hugbpbh
GTPv0_MS_deactivate_session_succeed	ACCUMULATION	INTEGER	Successful times of PDP context	M134221236.G134706607	Sum	huaactpbh, hugactpb

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			deactivation program initiated by MS			h, hugbpbh
GTPv0_MS_modify_session_request	ACCUMULATION	INTEGER	Attempts of PDP context modification program initiated by MS	M134221236.G134706610	Sum	huaactpbh, hugactpbh, hugbpbh
GTPv0_MS_modify_session_succeed	ACCUMULATION	INTEGER	Successful times of PDP context modification program initiated by MS	M134221236.G134706611	Sum	huaactpbh, hugactpbh, hugbpbh
GTPv0_MS_PDP_context_active_failed_by_AAA_Server_No_IP	ACCUMULATION	INTEGER	GTPv0 MS-init. PDP context act. failed - AAA Server No IP	M134221236.G134686776	Sum	huaactpbh, hugactpbh, hugbpbh
GTPv0_MS_PDP_context_active_failed_by_APN_access_denied_no_subscription	ACCUMULATION	INTEGER	GTPv0 MS-init. PDP context act. failed - APN access denied - no subscription	M134221236.G134706640	Sum	huaactpbh, hugactpbh, hugbpbh
GTPv0_MS_PDP_context_active_failed_by_APN_Lock	ACCUMULATION	INTEGER	GTPv0 MS-init. PDP context act. failed - APN Lock	M134221236.G134686775	Sum	huaactpbh, hugactpbh, hugbpbh
GTPv0_MS_PDP_context_active_failed_by_auth_failed	ACCUMULATION	INTEGER	MS PDP context activation failed times caused by the authentication failure	M134221236.G134706617	Sum	huaactpbh, hugactpbh, hugbpbh
GTPv0_MS_PDP_context_active_failed_by_DHCP_Server_No_	ACCUMULATION	INTEGER	GTPv0 MS-init. PDP context act. failed - DHCP Server	M134221236.G134686771	Sum	huaactpbh, hugactpbh,

Response			No Response			hugbpbh
GTPv0_MS_PDP_context_active_failed_by_LNS_Forbidden_Static_IP	ACCUMULATION	INTEGER	GTPv0 MS-init. PDP context act. failed - LNS Forbidden Static IP	M134221236.G134686777	Sum	huaactpbh, hugactpbh, hugbpbh
GTPv0_MS_PDP_context_active_failed_by_LNS_No_Response	ACCUMULATION	INTEGER	GTPv0 MS-init. PDP context act. failed - LNS No Response	M134221236.G134686772	Sum	huaactpbh, hugactpbh, hugbpbh
GTPv0_MS_PDP_context_active_failed_by_no_resource	ACCUMULATION	INTEGER	MS PDP context activation failed times caused by no available resources	M134221236.G134706615	Sum	huaactpbh, hugactpbh, hugbpbh
GTPv0_MS_PDP_context_active_failed_by_OCS_Server_No_Response	ACCUMULATION	INTEGER	GTPv0 MS-init. PDP context act. failed - OCS Server No Response	M134221236.G134686773	Sum	huaactpbh, hugactpbh, hugbpbh
GTPv0_MS_PDP_context_active_failed_by_other_reason	ACCUMULATION	INTEGER	MS PDP context activation failed times caused by other reasons	M134221236.G134706618	Sum	huaactpbh, hugactpbh, hugbpbh
GTPv0_MS_PDP_context_active_failed_by_PCRF_No_Response	ACCUMULATION	INTEGER	GTPv0 MS-init. PDP context act. failed - PCRF No Response	M134221236.G134686774	Sum	huaactpbh, hugactpbh, hugbpbh
GTPv0_MS_PDP_context_active_failed_by_Radius_Account_S	ACCUMULATION	INTEGER	GTPv0 MS-init. PDP context act. failed - Radius Account	M134221236.G134686770	Sum	huaactpbh, hugactpbh,

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erver_No_Response			Server No Response			hugbpbh
GTPv0_MS_PDP_context_active_failed_by_Radius_Authentication_Server_No_Response	ACCUMULATION	INTEGER	GTPv0 MS-init. PDP context act. failed - Radius Authentication Server No Response	M134221236.G134686769	Sum	huaactpbh, hugactpbh, hugbpbh
GTPv0_MS_PDP_context_active_failed_by_roaming_restriction	ACCUMULATION	INTEGER	GTPv0 MS-init. PDP context act. failed -roaming restriction	M134221236.G134686778	Sum	huaactpbh, hugactpbh, hugbpbh
GTPv0_MS_PDP_context_active_failed_by_service_not_support	ACCUMULATION	INTEGER	GTPv0 MS-init. PDP context act. failed - service not support	M134221236.G134686779	Sum	huaactpbh, hugactpbh, hugbpbh
GTPv0_MS_PDP_context_active_failed_by_system_fault	ACCUMULATION	INTEGER	MS PDP context activation failed times caused by the system faults	M134221236.G134706616	Sum	huaactpbh, hugactpbh, hugbpbh

7.1.6 APN.Huawei.GPRS.GTPV1_APN_session

GTPv1 APN session measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
_%_Dynamic_address_act_session_succeed	PERCENTAGE	FLOAT	Percentage of successful dynamic PDP context activating program initiated by MS	100 * {GTPv1_Dynamic_address_activate_session_succeed}/ {GTPv1_Dynamic_address_activate_session_request}	Average	huaactpbh, hugactpbh, hugbpbh
_%_GGSN_deact	PERCENTAGE	FLOAT	Percentage of successful PDP	100 * {GTPv1_GGSN_d	Average	huaactpbh,

ivate_session_succeed			context deactivation program initiated by GGSN	eactivate_session_succeed}/{GTPv1_GGSN_deactivate_session_request}		hugactpbh, hugbpbh
_%_GGSN_modify_session_succeed	PERCENTAGE	FLOAT	Percentage of successful PDP context modification program initiated by GGSN	100 * {GTPv1_GGSN_modify_session_succeed}/{GTPv1_GGSN_modify_session_request}	Average	huaactpbh, hugactpbh, hugbpbh
_%_MS_deactivate_session_succeed	PERCENTAGE	FLOAT	Percentage of successful PDP context deactivating program initiated by MS	100 * {GTPv1_MS_deactivate_session_succeed}/{GTPv1_MS_deactivate_session_request}	Average	huaactpbh, hugactpbh, hugbpbh
_%_MS_launch_second_active_succeed	PERCENTAGE	FLOAT	Percentage of successful PDP context secondary activating	100 * {GTPv1_MS_launch_second_active_succeed}/{GTPv1_MS_launch_second_active_request}	Average	huaactpbh, hugactpbh, hugbpbh
_%_MS_modify_session_succeed	PERCENTAGE	FLOAT	Percentage of successful PDP context modification program initiated by MS	100 * {GTPv1_MS_modify_session_succeed}/{GTPv1_MS_modify_session_request}	Average	huaactpbh, hugactpbh, hugbpbh
GTPv1_Dynamic_address_activate_session_request	ACCUMULATION	INTEGER	Attempts of dynamic PDP context activating program	M134221235.G134706586	Sum	huaactpbh, hugactpbh, hugbpbh

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			initiated by MS			
GTPv1_Dynamic_address_activate_session_succeed	ACCUMULATION	INTEGER	Successful times of dynamic PDP context activating program initiated by MS	M134221235.G134706587	Sum	huaactpbh, hugactpbh, hugbpbh
GTPv1_GGSN_deactivate_session_request	ACCUMULATION	INTEGER	Attempts of PDP context deactivation program initiated by GGSN	M134221235.G134706590	Sum	huaactpbh, hugactpbh, hugbpbh
GTPv1_GGSN_deactivate_session_succeed	ACCUMULATION	INTEGER	Successful times of PDP context deactivation program initiated by GGSN	M134221235.G134706591	Sum	huaactpbh, hugactpbh, hugbpbh
GTPv1_GGSN_modify_session_request	ACCUMULATION	INTEGER	Attempts of PDP context modification program initiated by GGSN	M134221235.G134706594	Sum	huaactpbh, hugactpbh, hugbpbh
GTPv1_GGSN_modify_session_succeed	ACCUMULATION	INTEGER	Successful times of PDP context modification program initiated by GGSN	M134221235.G134706595	Sum	huaactpbh, hugactpbh, hugbpbh
GTPv1_MS_act_PDP_context_success_ratio	INTENSITY	INTEGER	Successful rate of PDP context activation program initiated by 3G MS	M134221235.G134706583	Average	huaactpbh, hugactpbh, hugbpbh, Maximum, Minimu

						m, Sum
GTPv1_MS_activate_PDP_context_satisfy_QOS	ACCUMULATION	INTEGER	Times of PDP context activation QOS promising initiated by MS	M134221235.G134706596	Sum	huaactpbh, hugactpbh, hugbpbh
GTPv1_MS_activate_session_request	ACCUMULATION	INTEGER	Attempts of PDP context activation program initiated by MS	M134221235.G134706581	Sum	huaactpbh, hugactpbh, hugbpbh
GTPv1_MS_activate_session_succeed	ACCUMULATION	INTEGER	Successful times of PDP context activating program initiated by MS	M134221235.G134706582	Sum	huaactpbh, hugactpbh, hugbpbh
GTPv1_MS_deactivate_session_request	ACCUMULATION	INTEGER	Attempts of PDP context deactivating program initiated by MS	M134221235.G134706588	Sum	huaactpbh, hugactpbh, hugbpbh
GTPv1_MS_deactivate_session_succeed	ACCUMULATION	INTEGER	Successful times of PDP context deactivating program initiated by MS	M134221235.G134706589	Sum	huaactpbh, hugactpbh, hugbpbh
GTPv1_MS_launch_second_active_request	ACCUMULATION	INTEGER	Times that PDP context secondary activation request	M134221235.G134706584	Sum	huaactpbh, hugactpbh, hugbpbh
GTPv1_MS_launch_second_active_succeed	ACCUMULATION	INTEGER	Successful times of PDP context	M134221235.G134706585	Sum	huaactpbh, hugactpb

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			secondary activating			h, hugbpbh
GTPv1_MS_modify_session_request	ACCUMULATION	INTEGER	Attempts of PDP context modification program initiated by MS	M134221235.G134706592	Sum	huaactpbh, hugactpbh, hugbpbh
GTPv1_MS_modify_session_succeed	ACCUMULATION	INTEGER	Successful times of PDP context modification program initiated by MS	M134221235.G134706593	Sum	huaactpbh, hugactpbh, hugbpbh
GTPv1_MS_PDP_act_fail_by_no_dynamic_PDP_addresses	ACCUMULATION	INTEGER	Times of failed PDP context activation caused by no dynamic PDP addresses of GTPv1	M134221235.G134706625	Sum	huaactpbh, hugactpbh, hugbpbh
GTPv1_MS_PDP_act_fail_by_no_memory	ACCUMULATION	INTEGER	Times of failed PDP context activation caused by no free memory of GTPv1	M134221235.G134706626	Sum	huaactpbh, hugactpbh, hugbpbh
GTPv1_MS_PDP_act_fail_by_PDP_without_TFT_already_act	ACCUMULATION	INTEGER	Times of failed PDP context activation caused by no activated GTPv1 TFT context	M134221235.G134706632	Sum	huaactpbh, hugactpbh, hugbpbh
GTPv1_MS_PDP_act_fail_by_semantic_err_in_packet_filter	ACCUMULATION	INTEGER	Times of failed PDP context activation caused by semantic error during GTPv1 packet filtering	M134221235.G134706630	Sum	huaactpbh, hugactpbh, hugbpbh
GTPv1_MS_PD	ACCUMULA	INTEG	Times of failed	M134221235.G13	Sum	huaactpb

P_act_fail_by_semantic_err_in_TFT_operation	TION	ER	PDP context activation caused by semantic error of GTPv1 TFT operations	4706628		h, hugactpbh, hugbpbh
GTPv1_MS_PDP_act_fail_by_syntactic_err_in_packet_filter	ACCUMULATION	INTEGER	Times of failed PDP context activation caused by syntax error during GTPv1 packet filtering	M134221235.G134706631	Sum	huaactpbh, hugactpbh, hugbpbh
GTPv1_MS_PDP_act_fail_by_syntactic_err_in_TFT_operation	ACCUMULATION	INTEGER	Times of failed PDP context activation caused by syntax error of GTPv1 TFT operations	M134221235.G134706629	Sum	huaactpbh, hugactpbh, hugbpbh
GTPv1_MS_PDP_act_fail_by_unknown_PDP_addr_or_type	ACCUMULATION	INTEGER	Times of failed PDP context activation caused by unknown PDP addresses or types of GTPv1	M134221235.G134706627	Sum	huaactpbh, hugactpbh, hugbpbh
GTPv1_MS_PDP_context_active_failed_by_AAA_Server_No_IP	ACCUMULATION	INTEGER	GTPv1 MS-init. PDP context act. failed - AAA Server No IP	M134221235.G134686764	Sum	huaactpbh, hugactpbh, hugbpbh
GTPv1_MS_PDP_context_active_failed_by_APN_access_denied_no_subscription	ACCUMULATION	INTEGER	GTPv1 MS-init. PDP context act. failed - APN access denied - no subscription	M134221235.G134706639	Sum	huaactpbh, hugactpbh, hugbpbh

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GTPv1_MS_PDP_context_active_failed_by_APN_Lock	ACCUMULATION	INTEGER	GTPv1 MS-init. PDP context act. failed - APN Lock	M134221235.G134686763	Sum	huaactpbh, hugactpbh, hugbpbh
GTPv1_MS_PDP_context_active_failed_by_APN_Restriction_type_incompatibility	ACCUMULATION	INTEGER	GTPv1 MS-init. PDP context act. failed - APN Restriction type incompatibility	M134221235.G134686768	Sum	huaactpbh, hugactpbh, hugbpbh
GTPv1_MS_PDP_context_active_failed_by_auth_failed	ACCUMULATION	INTEGER	MS PDP context activation failed times caused by the authentication failure	M134221235.G134706599	Sum	huaactpbh, hugactpbh, hugbpbh
GTPv1_MS_PDP_context_active_failed_by_DHCP_Server_No_Response	ACCUMULATION	INTEGER	GTPv1 MS-init. PDP context act. failed - DHCP Server No Response	M134221235.G134686759	Sum	huaactpbh, hugactpbh, hugbpbh
GTPv1_MS_PDP_context_active_failed_by_LNS_Forbidden_Static_IP	ACCUMULATION	INTEGER	GTPv1 MS-init. PDP context act. failed - LNS Forbidden Static IP	M134221235.G134686765	Sum	huaactpbh, hugactpbh, hugbpbh
GTPv1_MS_PDP_context_active_failed_by_LNS_No_Response	ACCUMULATION	INTEGER	GTPv1 MS-init. PDP context act. failed - LNS No Response	M134221235.G134686760	Sum	huaactpbh, hugactpbh, hugbpbh
GTPv1_MS_PDP_context_active_failed_by_no_resource	ACCUMULATION	INTEGER	MS PDP context activation failed times caused by no available resources	M134221235.G134706597	Sum	huaactpbh, hugactpbh, hugbpbh
GTPv1_MS_PDP_context_activ	ACCUMULATION	INTEGER	GTPv1 MS-init. PDP context	M134221235.G134686761	Sum	huaactpbh,

e_failed_by_OCS_Server_No_Response			act. failed - OCS Server No Response			hugactpbh, hugbpbh
GTPv1_MS_PDP_context_active_failed_by_other_reason	ACCUMULATION	INTEGER	MS PDP context activation failed times caused by other reasons	M134221235.G134706600	Sum	huaactpbh, hugactpbh, hugbpbh
GTPv1_MS_PDP_context_active_failed_by_PCRF_No_Response	ACCUMULATION	INTEGER	GTPv1 MS-init. PDP context act. failed - PCRF No Response	M134221235.G134686762	Sum	huaactpbh, hugactpbh, hugbpbh
GTPv1_MS_PDP_context_active_failed_by_Radius_Account_Server_No_Response	ACCUMULATION	INTEGER	GTPv1 MS-init. PDP context act. failed - Radius Account Server No Response	M134221235.G134686758	Sum	huaactpbh, hugactpbh, hugbpbh
GTPv1_MS_PDP_context_active_failed_by_Radius_Authentication_Server_No_Response	ACCUMULATION	INTEGER	GTPv1 MS-init. PDP context act. failed - Radius Authentication Server No Response	M134221235.G134686757	Sum	huaactpbh, hugactpbh, hugbpbh
GTPv1_MS_PDP_context_active_failed_by_roaming_restriction	ACCUMULATION	INTEGER	GTPv1 MS-init. PDP context act. failed - roaming restriction	M134221235.G134686766	Sum	huaactpbh, hugactpbh, hugbpbh
GTPv1_MS_PDP_context_active_failed_by_service_not_support	ACCUMULATION	INTEGER	GTPv1 MS-init. PDP context act. failed - service not support	M134221235.G134686767	Sum	huaactpbh, hugactpbh, hugbpbh

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GTPv1_MS_PDP_context_active_failed_by_system_fault	ACCUMULATION	INTEGER	MS PDP context activation failed times caused by the system faults	M134221235.G134706598	Sum	huaactpbh, hugactpbh, hugbpbh

7.1.7 APN.Huawei.GPRS.Gx_interface_performance_APN

Gx interface performance on APN

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
PCC_Received_ASR_Messages	ACCUMULATION	INTEGER	PCC Received ASR Messages (PCRF)	M134221265_APN.G134709411 or M134221266_APN.G134709411	Sum	huaactpbh
PCC_Received_CCAI_Messages	ACCUMULATION	INTEGER	PCC Received CCA-I Messages (PCRF)	M134221265_APN.G134709404 or M134221266_APN.G134709404	Sum	huaactpbh
PCC_Received_CCAT_Message	ACCUMULATION	INTEGER	PCC Received CCA-T Message (PCRF)	M134221265_APN.G134709408 or M134221266_APN.G134709408	Sum	huaactpbh
PCC_Received_CCAU_Messages	ACCUMULATION	INTEGER	PCC Received CCA-U Messages (PCRF)	M134221265_APN.G134709406 or M134221266_APN.G134709406	Sum	huaactpbh
PCC_Received_Messages	ACCUMULATION	INTEGER	PCC Received Messages (PCRF)	M134221265_APN.G134709402 or M134221266_APN.G134709402	Sum	huaactpbh
PCC_Received_RAR_Messages	ACCUMULATION	INTEGER	PCC Received RAR Messages (PCRF)	M134221265_APN.G134709409 or M134221266_APN.G134709409	Sum	huaactpbh
PCC_Sent_ASA_Messages	ACCUMULATION	INTEGER	PCC Sent ASA Messages (PCRF)	M134221265_APN.G134709412 or M134221266_APN.	Sum	huaactpbh

				G134709412		
PCC_Sent_CCRI_Messages	ACCUMULATION	INTEGER	PCC Sent CCR-I Messages (PCRF)	M134221265_APN.G134709403 or M134221266_APN.G134709403	Sum	huaactpbh
PCC_Sent_CCRT_Messages	ACCUMULATION	INTEGER	PCC Sent CCR-T Messages (PCRF)	M134221265_APN.G134709407 or M134221266_APN.G134709407	Sum	huaactpbh
PCC_Sent_CCRU_Messages	ACCUMULATION	INTEGER	PCC Sent CCR-U Messages (PCRF)	M134221265_APN.G134709405 or M134221266_APN.G134709405	Sum	huaactpbh
PCC_Sent_Messages	ACCUMULATION	INTEGER	PCC Sent Messages (PCRF)	M134221265_APN.G134709401 or M134221266_APN.G134709401	Sum	huaactpbh
PCC_Sent_RAA_Messages	ACCUMULATION	INTEGER	PCC Sent RAA Messages (PCRF)	M134221265_APN.G134709410 or M134221266_APN.G134709410	Sum	huaactpbh

7.1.8 APN.Huawei.GPRS.IMS_session

**Obsolete in GGSN/V800R006 C02. IMS Data PDP context session

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
_%_APN_IMS_DATA_PDP_context_active_failed_times	PERCENTAGE	FLOAT	Obsolete from GGSN/V800R006 C01B010:Percentage of APN IMS_DATA PDP context active failed	100 * {APN_IMS_DATA_PDP_context_active_failed_times }/ {APN_IMS_DATA_PDP_context_active_request_time	Average	huaactpbh, hugactpbh, hugbpbh

			times	s}		
_%_PDF_start_APN_IMS_DATA_PDP_context_update_failed_times	PERCENTAGE	FLOAT	Obsolete from GGSN/V800R006 C01B010:Percentage of PDF start APN IMS_DATA PDP context active failed times	100 * {PDF_start_APN_IMS_DATA_PDP_context_update_failed_times}/ {PDF_start_APN_IMS_DATA_PDP_context_update_request_times}	Average	huaactpbh, hugactpbh, hugbpbh
_%_SGSN_start_APN_IMS_DATA_PDP_context_delete_failed_times	PERCENTAGE	FLOAT	Obsolete from GGSN/V800R006 C01B010:Percentage of SGSN start APN IMS_DATA PDP context delete success times	100 * {SGSN_start_APN_IMS_DATA_PDP_context_delete_failed_times}/ {SGSN_start_APN_IMS_DATA_PDP_context_delete_request_times}	Average	huaactpbh, hugactpbh, hugbpbh
_%_SGSN_start_APN_IMS_DATA_PDP_context_update_faile d_times	PERCENTAGE	FLOAT	Obsolete from GGSN/V800R006 C01B010:Percentage of SGSN start APN IMS_DATA PDP context active failed times	100 * {SGSN_start_APN_IMS_DATA_PDP_context_update_failed_times}/ {SGSN_start_APN_IMS_DATA_PDP_context_update_request_times}	Average	huaactpbh, hugactpbh, hugbpbh
APN_IMS_DATA_PDP_context_active_failed_times	ACCUMULATION	INTEGER	Obsolete from GGSN/V800R006 C01B010:APN IMS_DATA PDP context active failed times	M134221259.G134708603	Sum	huaactpbh, hugactpbh, hugbpbh
APN_IMS_DATA_PDP_context_active_request_times	ACCUMULATION	INTEGER	Obsolete from GGSN/V800R006 C01B010:APN	M134221259.G134708601	Sum	huaactpbh, hugactpbh,

			IMS_DATA PDP context active request times			hugbpbh
APN_IMS_DATA_PDP_context_active_success_times	ACCUMULATION	INTEGER	Obsolete from GGSN/V800R006 C01B010:APN IMS_DATA PDP context active success times	M134221259.G134708602	Sum	huaactpbh, hugactpbh, hugbpbh
PDF_start_APN_IMS_DATA_PDP_context_update_failed_times	ACCUMULATION	INTEGER	Obsolete from GGSN/V800R006 C01B010:PDF start APN IMS_DATA PDP context active failed times	M134221259.G134708609	Sum	huaactpbh, hugactpbh, hugbpbh
PDF_start_APN_IMS_DATA_PDP_context_update_request_times	ACCUMULATION	INTEGER	Obsolete from GGSN/V800R006 C01B010:PDF start APN IMS_DATA PDP context active request times	M134221259.G134708607	Sum	huaactpbh, hugactpbh, hugbpbh
PDF_start_APN_IMS_DATA_PDP_context_update_success_times	ACCUMULATION	INTEGER	Obsolete from GGSN/V800R006 C01B010:PDF start APN IMS_DATA PDP context active success	M134221259.G134708608	Sum	huaactpbh, hugactpbh, hugbpbh

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			times			
PDF_start_revoke_authorization_APN_IMS_DATA_PDP_context	ACCUMULATION	INTEGER	Obsolete from GGSN/V800R006 C01B010:Times of revoke authorization APN IMS_DATA PDP context started by PDF	M134221259.G134708612	Sum	huaactpbh, hugactpbh, hugbpbh
SGSN_start_APN_IMS_DATA_PDP_context_delete_failed_times	ACCUMULATION	INTEGER	Obsolete from GGSN/V800R006 C01B010:SGSN start APN IMS_DATA PDP context delete success times	M134221259.G134708611	Sum	huaactpbh, hugactpbh, hugbpbh
SGSN_start_APN_IMS_DATA_PDP_context_delete_request_times	ACCUMULATION	INTEGER	Obsolete from GGSN/V800R006 C01B010:SGSN start APN IMS_DATA PDP context delete request times	M134221259.G134708610	Sum	huaactpbh, hugactpbh, hugbpbh
SGSN_start_APN_IMS_DATA_PDP_context_update_failed_times	ACCUMULATION	INTEGER	Obsolete from GGSN/V800R006 C01B010:SGSN start APN IMS_DATA PDP context active failed times	M134221259.G134708606	Sum	huaactpbh, hugactpbh, hugbpbh
SGSN_start_APN_IMS_DATA_PDP_context_update_request_times	ACCUMULATION	INTEGER	Obsolete from GGSN/V800R006 C01B010:SGSN start APN	M134221259.G134708604	Sum	huaactpbh, hugactpbh, hugbpbh

			IMS_DATA PDP context active request times			
SGSN_start_APN_IMS_DATA_PDP_context_update_success_times	ACCUMULATION	INTEGER	Obsolete from GGSN/V800R006 C01B010:SGSN start APN IMS_DATA PDP context active success times	M134221259.G134708605	Sum	huaactpbh, hugactpbh, hugbpbh

7.1.9 APN.Huawei.GPRS.PCC_Session_APN

Policy and Charging Control (PCC) session on APN

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
Activated_PDP_Contexts_With_PCC_Enabled	ACCUMULATION	INTEGER	Activated PDP Contexts With PCC Enabled (PCRF)	M134221268_APN.G134709703 or M134221269_APN.G134709703	Sum	huaactpbh
Activated_PDP_Sessions_With_PCC_Enabled	ACCUMULATION	INTEGER	Activated PDP Sessions With PCC Enabled (PCRF)	M134221268_APN.G134709701 or M134221269_APN.G134709701	Sum	huaactpbh
Deactivated_PDP_Contexts_With_PCC_Enabled	ACCUMULATION	INTEGER	Deactivated PDP Contexts With PCC Enabled (PCRF)	M134221268_APN.G134709704 or M134221269_APN.G134709704	Sum	huaactpbh
Deactivated_PDP_Sessions_with_PCC_Ena	ACCUMULATION	INTEGER	Deactivated PDP Sessions with PCC	M134221268_APN.G134709702 or M134221269_APN.	Sum	huaactpbh

bled			Enabled (PCRF)	G134709702		

7.2 CG_IP Performance Indicators

This section shows the key performance indicators and other counters for the CG_IP object, divided into the following sub-sections:

- CG_IP.Huawei.GPRS.GTPP

7.2.1 CG_IP.Huawei.GPRS.GTPP

GTPP performance measurement (discriminate CG IP)

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
Bytes_of_CDRs_sent_to_CG	ACCUMULATION	INTEGER	Perform the statistics about the total bill bytes sent to CG	M134221234.G134696585	Sum	
CDR_information_transfers_attempted	ACCUMULATION	INTEGER	Number of CDR messages that are sent successfully	M134221234.G134696589	Sum	
CDR_information_transfers_failed	ACCUMULATION	INTEGER	Number of CDR messages that get improper responses	M134221234.G134696590	Sum	
CDR_sent_to_the_cg_got_a_response	ACCUMULATION	INTEGER	Number of CDR messages that get proper responses	M134221234.G134696588	Sum	
CG_communication_fault	ACCUMULATION	INTEGER	Perform the broken times when CG communication is broken	M134221234.G134696582	Sum	
CG_redirection_fault	ACCUMULATION	INTEGER	Perform CG redirection	M134221234.G134696583	Sum	

			failed times			
CG_sent_redirection_message_to_GGSN	ACCUMULATION	INTEGER	Perform the times for CG sending redirection message to GGSN	M134221234.G134696584	Sum	
Currently_pending_G_CDR_output_messages	INTENSITY	INTEGER	Total users bills that are pending currently	M134221234.G134696587	Average	Maximum, Minimum, Sum
Downlink_data_packets_discarded_for_service_APN	ACCUMULATION	INTEGER	Downlink data packets discarded for service (APN)	M134221234.G134706920	Sum	
G_CDR_transmission_failure_by_no_resource_available	ACCUMULATION	INTEGER	Number of CDR messages that get improper responses by no resource available	M134221234.G134696591	Sum	
G_CDR_transmission_failure_by_other_reasons	ACCUMULATION	INTEGER	Number of CDR messages that get improper responses by other reasons	M134221234.G134696594	Sum	
G_CDR_transmission_failure_for_service_not_supporting	ACCUMULATION	INTEGER	Number of CDR messages that get improper responses for service not supporting	M134221234.G134696592	Sum	
G_CDR_transmi	ACCUMULA	INTEG	Number of	M134221234.G13	Sum	

ssion_failure_for_system_failure	TION	ER	CDR messages that get improper responses for system failure	4696593		
GCDR_transmission_type_1_success_messages_CG	ACCUMULATION	INTEGER	G-CDR transmission type 1 success messages (CG)	M134221234.G134696595	Sum	
GCDR_transmission_type_2_success_messages_CG	ACCUMULATION	INTEGER	G-CDR transmission type 2 success messages (CG)	M134221234.G134696596	Sum	
GGSN_traffic_in_packets_APN	ACCUMULATION	INTEGER	GGSN traffic in packets (APN)	M134221234.G134706918	Sum	
Illegal_GTPP_mess_received_from_CG	ACCUMULATION	INTEGER	Perform the statistics about the illegal GTP signaling packets received by GGSN	M134221234.G134696581	Sum	
Num_of_CDRs_sent_to_CG	ACCUMULATION	INTEGER	Perform the statistics about the total bills sending to CG	M134221234.G134696586	Sum	
Uplink_data_packets_discarded_for_service_APN	ACCUMULATION	INTEGER	Uplink data packets discarded for service (APN)	M134221234.G134706919	Sum	

7.3 GGSN Performance Indicators

This section shows the key performance indicators and other counters for the GGSN object, divided into the following sub-sections:

- GGSN.Huawei.GPRS.AAA
- GGSN.Huawei.GPRS.Basic_session_by_traffic_class
- GGSN.Huawei.GPRS.Basic_session_IPV6
- GGSN.Huawei.GPRS.Basic_session
- GGSN.Huawei.GPRS.CLIT
- GGSN.Huawei.GPRS.DHCP

- GGSN.Huawei.GPRS.Different_service_PDP_context
- GGSN.Huawei.GPRS.G_CDR
- GGSN.Huawei.GPRS.GTP_data_by_traffic_class
- GGSN.Huawei.GPRS.GTP_signal_by_traffic_class
- GGSN.Huawei.GPRS.GTPP
- GGSN.Huawei.GPRS.Gx_interface_performance_GGSN
- GGSN.Huawei.GPRS.Gy_interface
- GGSN.Huawei.GPRS.IMS_basic_session
- GGSN.Huawei.GPRS.Intelligent_service
- GGSN.Huawei.GPRS.IP_data_by_traffic_class
- GGSN.Huawei.GPRS.IPV6_transport
- GGSN.Huawei.GPRS.L2TP
- GGSN.Huawei.GPRS.Layer7_parser
- GGSN.Huawei.GPRS.MBMS
- GGSN.Huawei.GPRS.MIP_FA
- GGSN.Huawei.GPRS.PCC_Session_GGSN
- GGSN.Huawei.GPRS.PPPC
- GGSN.Huawei.GPRS.Prepay
- GGSN.Huawei.GPRS.SBR_traffic
- GGSN.Huawei.GPRS.Signal_message_error_cause
- GGSN.Huawei.GPRS.Transport
- GGSN.Huawei.GPRS.Tunnels
- GGSN.Huawei.GPRS.Users_number

7.3.1 GGSN.Huawei.GPRS.AAA

AAA performance measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
_%_Accounting_start_success	PERCENTAGE	FLOAT	Percentage of successful accounting start request sent from GGSN to AAA server	100 * {Accounting_start_success}/ {Accounting_start_request}	Average	hugactpbh, hugbpbh
_%_Accounting_stop_success	PERCENTAGE	FLOAT	Percentage of successful accounting	100 * {Accounting_stop_success}/	Average	hugactpbh, hugbpbh

			stopping request sent from GGSN to AAA server	{Accounting_stop_request}		
_%_Authentication_request_success	PERCENTAGE	FLOAT	Percentage of successful authentication request sent from GGSN to AAA server	100 * {Authentication_request_success}/ {Authentication_request}	Average	hugactpbh, hugbpbh
_%_Realtime_accounting_request_success	PERCENTAGE	FLOAT	Percentage of successful real-time accounting request sent from GGSN to AAA server	100 * {Realtime_accounting_request_success}/ {Realtime_accounting_request}	Average	hugactpbh, hugbpbh
Accounting_start_request	ACCUMULATION	INTEGER	Attempts of accounting start request sent from GGSN to AAA server	M134221232.G134686984	Sum	hugactpbh, hugbpbh
Accounting_start_success	ACCUMULATION	INTEGER	Successful times of accounting start request sent from GGSN to AAA server	M134221232.G134686983	Sum	hugactpbh, hugbpbh
Accounting_stop_request	ACCUMULATION	INTEGER	Attempts of accounting stopping request sent from GGSN to AAA server	M134221232.G134686988	Sum	hugactpbh, hugbpbh
Accounting_stop_success	ACCUMULATION	INTEGER	Successful times of accounting stopping request sent from GGSN to AAA server	M134221232.G134686987	Sum	hugactpbh, hugbpbh

Authentication_request_success	ACCUMULATION	INTEGER	Successful times of authentication request sent from GGSN to AAA server	M134221232.G134686981	Sum	hugactpbh, hugbpbh
Authentication_request	ACCUMULATION	INTEGER	Attempts of authentication request sent from GGSN to AAA server	M134221232.G134686982	Sum	hugactpbh, hugbpbh
GGSN_receive_disconnect_req_num	ACCUMULATION	INTEGER	Times of receiving "DISCONNECT REQ" messages by GGSN from AAA server	M134221232.G134686990	Sum	hugactpbh, hugbpbh
GGSN_send_disconnect_ack_num	ACCUMULATION	INTEGER	Times of sending "DISCONNECT ACK" messages by GGSN to AAA server	M134221232.G134686991	Sum	hugactpbh, hugbpbh
GGSN_send_disconnect_nak_num	ACCUMULATION	INTEGER	Times of sending "DISCONNECT NAK" messages by GGSN to AAA server	M134221232.G134686992	Sum	hugactpbh, hugbpbh
Illegal_AAA_message_received	ACCUMULATION	INTEGER	Times of receiving invalid packets by GGSN from AAA server	M134221232.G134686989	Sum	hugactpbh, hugbpbh

Realtime_accounting_request_success	ACCUMULATION	INTEGER	Successful times of real-time accounting request sent from GGSN to AAA server	M134221232.G134686985	Sum	hugactpbh, hugbpbh
Realtime_accounting_request	ACCUMULATION	INTEGER	Attempts of real-time accounting request sent from GGSN to AAA server	M134221232.G134686986	Sum	hugactpbh, hugbpbh

7.3.2 GGSN.Huawei.GPRS.Basic_session_by_traffic_class

PDP context per traffic class (conversational, streaming, interactive and background) and priority (low, medium and high)

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
_%_Background_class_PDP_context_act_succ_with_high_priority	PERCENTAGE	FLOAT	Percentage of PDP context creation successful, based on traffic class and user priority. Traffic class is background and the use priority is high	100 * {Background_class_PDP_context_act_succ_with_high_priority}/ {Background_class_PDP_context_act_with_high_priority}	Average	hugactpbh, hugbpbh
_%_Background_class_PDP_context_act_succ_with_low_priority	PERCENTAGE	FLOAT	Percentage of PDP context creation successful, based on traffic class and user priority. Traffic class is background	100 * {Background_class_PDP_context_act_succ_with_low_priority}/ {Background_class_PDP_context_act_with_low_priority}	Average	hugactpbh, hugbpbh

			and the use priority is low			
_%_Background_class_PDP_context_act_succ_with_mid_priority	PERCENTAGE	FLOAT	Percentage of PDP context creation successful, based on traffic class and user priority. Traffic class is background and the use priority is medium	100 * {Background_class_PDP_context_act_succ_with_mid_priority}/ {Background_class_PDP_context_act_with_mid_priority}	Average	hugactpbh, hugbpbh
_%_Conversational_class_PDP_context_act_succ_with_high_priority	PERCENTAGE	FLOAT	Percentage of PDP context creation successful, based on traffic class and user priority. Traffic class is conversational and the use priority is high	100 * {Conversational_class_PDP_context_act_succ_with_high_priority}/ {Conversational_class_PDP_context_act_with_high_priority}	Average	hugactpbh, hugbpbh
_%_Conversational_class_PDP_context_act_succ_with_low_priority	PERCENTAGE	FLOAT	Percentage of PDP context creation successful, based on traffic class and user priority. Traffic class is conversational and the use priority is low	100 * {Conversational_class_PDP_context_act_succ_with_low_priority}/ {Conversational_class_PDP_context_act_with_low_priority}	Average	hugactpbh, hugbpbh

_%_Conversational_class_PDP_context_act_succ_with_mid_priority	PERCENTAGE	FLOAT	Percentage of PDP context creation successful, based on traffic class and user priority. Traffic class is conversational and the use priority is medium	100 * {Conversational_class_PDP_context_act_succ_with_mid_priority}/ {Conversational_class_PDP_context_act_with_mid_priority}	Average	hugactpbh, hugbpbh
_%_Interactive_class_PDP_context_act_succ_with_high_priority	PERCENTAGE	FLOAT	Percentage of PDP context creation successful, based on traffic class and user priority. Traffic class is interactive and the use priority is high	100 * {Interactive_class_PDP_context_act_succ_with_high_priority}/ {Interactive_class_PDP_context_act_with_high_priority}	Average	hugactpbh, hugbpbh
_%_Interactive_class_PDP_context_act_succ_with_low_priority	PERCENTAGE	FLOAT	Percentage of PDP context creation successful, based on traffic class and user priority. Traffic class is interactive and the use priority is low	100 * {Interactive_class_PDP_context_act_succ_with_low_priority}/ {Interactive_class_PDP_context_act_with_low_priority}	Average	hugactpbh, hugbpbh
_%_Interactive_class_PDP_context_act_succ_with_mid_priority	PERCENTAGE	FLOAT	Percentage of PDP context creation successful, based on traffic class and user	100 * {Interactive_class_PDP_context_act_succ_with_mid_priority}/ {Interactive_class_PDP_context_act_	Average	hugactpbh, hugbpbh

			priority. Traffic class is interactive and the use priority is medium	with_mid_priority}		
_%_Streaming_class_PDP_context_act_succ_with_high_priority	PERCENTAGE	FLOAT	Percentage of PDP context creation successful, based on traffic class and user priority. Traffic class is streaming and the use priority is high	100 * {Streaming_class_PDP_context_act_succ_with_high_priority}/ {Streaming_class_PDP_context_act_with_high_priority}	Average	hugactpbh, hugbpbh
_%_Streaming_class_PDP_context_act_succ_with_low_priority	PERCENTAGE	FLOAT	Percentage of PDP context creation successful, based on traffic class and user priority. Traffic class is streaming and the use priority is low	100 * {Streaming_class_PDP_context_act_succ_with_low_priority}/ {Streaming_class_PDP_context_act_with_low_priority}	Average	hugactpbh, hugbpbh
_%_Streaming_class_PDP_context_act_succ_with_mid_priority	PERCENTAGE	FLOAT	Percentage of PDP context creation successful, based on traffic class and user priority. Traffic class is streaming and	100 * {Streaming_class_PDP_context_act_succ_with_mid_priority}/ {Streaming_class_PDP_context_act_with_mid_priority}	Average	hugactpbh, hugbpbh

			the use priority is medium			
Background_class_PDP_context_act_succ_with_high_priority	ACCUMULATION	INTEGER	PDP context creation successful, based on traffic class and user priority. Traffic class is background and the use priority is high	M134221249.G134707220	Sum	hugactpbh, hugbpbh
Background_class_PDP_context_act_succ_with_low_priority	ACCUMULATION	INTEGER	PDP context creation successful, based on traffic class and user priority. Traffic class is background and the use priority is low	M134221249.G134707216	Sum	hugactpbh, hugbpbh
Background_class_PDP_context_act_succ_with_mid_priority	ACCUMULATION	INTEGER	PDP context creation successful, based on traffic class and user priority. Traffic class is background and the use priority is medium	M134221249.G134707224	Sum	hugactpbh, hugbpbh
Background_class_PDP_context_act_succ	ACCUMULATION	INTEGER	PDP context creation successful, based on traffic class. Traffic class is background	{Background_class_PDP_context_act_succ_with_low_priority}+ {Background_class_PDP_context_act_succ_with_high_	Sum	hugactpbh, hugbpbh

				priority}+ {Background_class_PDP_context_act_succ_with_mid_priority}		
Background_class_PDP_context_act_with_high_priority	ACCUMULATION	INTEGER	PDP context creation attempts, based on traffic class and user priority. Traffic class is background and the use priority is high	M134221249.G134707208	Sum	hugactpbh, hugbpbh
Background_class_PDP_context_act_with_low_priority	ACCUMULATION	INTEGER	PDP context creation attempts, based on traffic class and user priority. Traffic class is background and the use priority is low	M134221249.G134707204	Sum	hugactpbh, hugbpbh
Background_class_PDP_context_act_with_mid_priority	ACCUMULATION	INTEGER	PDP context creation attempts, based on traffic class and user priority. Traffic class is background and the use priority is medium	M134221249.G134707212	Sum	hugactpbh, hugbpbh

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Background_class_PDP_context_act	ACCUMULATION	INTEGER	PDP context creation attempts, based on traffic class. Traffic class is background	{Background_class_PDP_context_act_with_low_priority}+ {Background_class_PDP_context_act_with_high_priority}+ {Background_class_PDP_context_act_with_mid_priority}	Sum	hugactpbh, hugbpbh
Conversational_class_PDP_context_act_succ_with_high_priority	ACCUMULATION	INTEGER	PDP context creation successful, based on traffic class and user priority. Traffic class is conversational and the use priority is high	M134221249.G134707217	Sum	hugactpbh, hugbpbh
Conversational_class_PDP_context_act_succ_with_low_priority	ACCUMULATION	INTEGER	PDP context creation successful, based on traffic class and user priority. Traffic class is conversational and the use priority is low	M134221249.G134707213	Sum	hugactpbh, hugbpbh
Conversational_class_PDP_context_act_succ_with_mid_priority	ACCUMULATION	INTEGER	PDP context creation successful, based on traffic class and user priority. Traffic class is conversational and the use	M134221249.G134707221	Sum	hugactpbh, hugbpbh

			priority is medium			
Conversational_class_PDP_context_act_succ	ACCUMULATION	INTEGER	PDP context creation successful, based on traffic class. Traffic class is conversational	{Conversational_class_PDP_context_act_succ_with_low_priority}+ {Conversational_class_PDP_context_act_succ_with_high_priority}+ {Conversational_class_PDP_context_act_succ_with_mid_priority}	Sum	hugactpbh, hugbpbh
Conversational_class_PDP_context_act_with_high_priority	ACCUMULATION	INTEGER	PDP context creation attempts, based on traffic class and user priority. Traffic class is conversational and the use priority is high	M134221249.G134707205	Sum	hugactpbh, hugbpbh
Conversational_class_PDP_context_act_with_low_priority	ACCUMULATION	INTEGER	PDP context creation attempts, based on traffic class and user priority. Traffic class is conversational and the use priority is low	M134221249.G134707201	Sum	hugactpbh, hugbpbh
Conversational_class_PDP_contex	ACCUMULATION	INTEGER	PDP context creation	M134221249.G134707209	Sum	hugactpbh,

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t_act_with_mid_priority			attempts, based on traffic class and user priority. Traffic class is conversational and the use priority is medium			hugbpbh
Conversational_class_PDP_context_act	ACCUMULATION	INTEGER	PDP context creation attempts, based on traffic class. Traffic class is conversational	{Conversational_class_PDP_context_act_with_low_priority}+ {Conversational_class_PDP_context_act_with_high_priority}+ {Conversational_class_PDP_context_act_with_mid_priority}	Sum	hugactpbh, hugbpbh
Interactive_class_PDP_context_act_succ_with_high_priority	ACCUMULATION	INTEGER	PDP context creation successful, based on traffic class and user priority. Traffic class is interactive and the use priority is high	M134221249.G134707219	Sum	hugactpbh, hugbpbh
Interactive_class_PDP_context_act_succ_with_low_priority	ACCUMULATION	INTEGER	PDP context creation successful, based on traffic class and user priority. Traffic class is interactive and the use priority is low	M134221249.G134707215	Sum	hugactpbh, hugbpbh

Interactive_class_PDP_context_act_succ_with_mid_priority	ACCUMULATION	INTEGER	PDP context creation successful, based on traffic class and user priority. Traffic class is interactive and the use priority is medium	M134221249.G134707223	Sum	hugactpbh, hugbpbh
Interactive_class_PDP_context_act_succ	ACCUMULATION	INTEGER	PDP context creation successful, based on traffic class. Traffic class is interactive	{Interactive_class_PDP_context_act_succ_with_low_priority}+ {Interactive_class_PDP_context_act_succ_with_high_priority}+ {Interactive_class_PDP_context_act_succ_with_mid_priority}	Sum	hugactpbh, hugbpbh
Interactive_class_PDP_context_act_with_high_priority	ACCUMULATION	INTEGER	PDP context creation attempts, based on traffic class and user priority. Traffic class is interactive and the use priority is high	M134221249.G134707207	Sum	hugactpbh, hugbpbh
Interactive_class_PDP_context_act_with_low_priority	ACCUMULATION	INTEGER	PDP context creation attempts, based on traffic class	M134221249.G134707203	Sum	hugactpbh, hugbpbh

			and user priority. Traffic class is interactive and the use priority is low			
Interactive_class_PDP_context_act_with_mid_priority	ACCUMULATION	INTEGER	PDP context creation attempts, based on traffic class and user priority. Traffic class is interactive and the use priority is medium	M134221249.G134707211	Sum	hugactpbh, hugbpbh
Interactive_class_PDP_context_act	ACCUMULATION	INTEGER	PDP context creation attempts, based on traffic class. Traffic class is interactive	{Interactive_class_PDP_context_act_with_low_priority} + {Interactive_class_PDP_context_act_with_high_priority }+ {Interactive_class_PDP_context_act_with_mid_priority}	Sum	hugactpbh, hugbpbh
Streaming_class_PDP_context_act_succ_with_high_priority	ACCUMULATION	INTEGER	PDP context creation successful, based on traffic class and user priority. Traffic class is streaming and the use priority is high	M134221249.G134707218	Sum	hugactpbh, hugbpbh
Streaming_class_PDP_context_act_succ_with_low_priority	ACCUMULATION	INTEGER	PDP context creation successful, based on	M134221249.G134707214	Sum	hugactpbh, hugbpbh

			traffic class and user priority. Traffic class is streaming and the use priority is low			
Streaming_class_PDP_context_act_succ_with_mid_priority	ACCUMULATION	INTEGER	PDP context creation successful, based on traffic class and user priority. Traffic class is streaming and the use priority is medium	M134221249.G134707222	Sum	hugactpbh, hugbpbh
Streaming_class_PDP_context_act_succ	ACCUMULATION	INTEGER	PDP context creation successful, based on traffic class. Traffic class is streaming	{Streaming_class_PDP_context_act_succ_with_low_priority}+ {Streaming_class_PDP_context_act_succ_with_high_priority}+ {Streaming_class_PDP_context_act_succ_with_mid_priority}	Sum	hugactpbh, hugbpbh
Streaming_class_PDP_context_act_with_high_priority	ACCUMULATION	INTEGER	PDP context creation attempts, based on traffic class and user priority. Traffic class is streaming and	M134221249.G134707206	Sum	hugactpbh, hugbpbh

			the use priority is high			
Streaming_class_PDP_context_act_with_low_priority	ACCUMULATION	INTEGER	PDP context creation attempts, based on traffic class and user priority. Traffic class is streaming and the use priority is low	M134221249.G134707202	Sum	hugactpbh, hugbpbh
Streaming_class_PDP_context_act_with_mid_priority	ACCUMULATION	INTEGER	PDP context creation attempts, based on traffic class and user priority. Traffic class is streaming and the use priority is medium	M134221249.G134707210	Sum	hugactpbh, hugbpbh
Streaming_class_PDP_context_act	ACCUMULATION	INTEGER	PDP context creation attempts, based on traffic class. Traffic class is streaming	{Streaming_class_PDP_context_act_with_low_priority} + {Streaming_class_PDP_context_act_with_high_priority }+ {Streaming_class_PDP_context_act_with_mid_priority}	Sum	hugactpbh, hugbpbh

7.3.3 GGSN.Huawei.GPRS.Basic_session_IPV6

Basic session for IPV6 measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators

_%_IPv6_PDP_context_Succ_activate	PERCENTAGE	FLOAT	Percentage of successful times of IPV6 PDP context activation by the GGSN.	100 * {IPv6_PDP_context_succ_activate}/{IPV6_PDP_context_reqs_activate}	Average	hugactpbh, hugbpbh
IPV6_PDP_average_context_activated	INTENSITY	INTEGER	Average IPV6 PDP contexts activated by GGSN	M134221228.G134686669	Average	hugactpbh, hugbpbh, Sum, Minimum, Maximum
IPV6_PDP_context_act_fail_by_auth_failed	ACCUMULATION	INTEGER	Times of failed IPV6 PDP context activation caused by failed authentication.	M134221228.G134686660	Sum	hugactpbh, hugbpbh
IPV6_PDP_context_act_fail_by_invalid_message_format	ACCUMULATION	INTEGER	Times of failed IPV6 PDP context activation caused by invalid message format	M134221228.G134686655	Sum	hugactpbh, hugbpbh
IPV6_PDP_context_act_fail_by_mandatory_IE_incorrect	ACCUMULATION	INTEGER	Times of failed IPV6 PDP context activation caused by error of mandatory IEs.	M134221228.G134686652	Sum	hugactpbh, hugbpbh
IPV6_PDP_context_act_fail_by_mandatory_IE_missing	ACCUMULATION	INTEGER	Times of failed IPV6 PDP context activation	M134221228.G134686653	Sum	hugactpbh, hugbpbh

			caused by loss of mandatory IEs.			
IPV6_PDP_context_act_fail_by_no_dynamic_PDP_addresses	ACCUMULATION	INTEGER	Times of failed IPV6 PDP context activation caused by no dynamic PDP addresses.	M134221228.G134686657	Sum	hugactpbh, hugbpbh
IPV6_PDP_context_act_fail_by_no_memory	ACCUMULATION	INTEGER	Times of failed IPV6 PDP context activation caused by no free memory.	M134221228.G134686658	Sum	hugactpbh, hugbpbh
IPv6_PDP_context_act_fail_by_no_resource	ACCUMULATION	INTEGER	Times of failed IPV6 PDP context activation caused by no resource.	M134221228.G134686667	Sum	hugactpbh, hugbpbh
IPV6_PDP_context_act_fail_by_optional_IE_incorrect	ACCUMULATION	INTEGER	Times of failed IPV6 PDP context activation caused by error of optional IEs.	M134221228.G134686654	Sum	hugactpbh, hugbpbh
IPV6_PDP_context_act_fail_by_PDP_without_TFT_already_act	ACCUMULATION	INTEGER	Times of failed IPV6 PDP context activation caused by no activated TFT context.	M134221228.G134686666	Sum	hugactpbh, hugbpbh
IPV6_PDP_context_act_fail_by_semantic_err_in_packet_filters	ACCUMULATION	INTEGER	Times of failed IPV6 PDP context activation caused by semantic error during packet	M134221228.G134686664	Sum	hugactpbh, hugbpbh

			filtering.			
IPV6_PDP_context_act_fail_by_semantic_err_in_TFT_operation	ACCUMULATION	INTEGER	Times of failed IPV6 PDP context activation caused by semantic error of TFT operations.	M134221228.G134686662	Sum	hugactpbh, hugbpbh
IPV6_PDP_context_act_fail_by_syntax_err_in_packet_filters	ACCUMULATION	INTEGER	Times of failed IPV6 PDP context activation caused by syntax error during packet filtering.	M134221228.G134686665	Sum	hugactpbh, hugbpbh
IPV6_PDP_context_act_fail_by_syntax_err_in_TFT_operation	ACCUMULATION	INTEGER	Times of failed IPV6 PDP context activation caused by syntax error of TFT operations.	M134221228.G134686663	Sum	hugactpbh, hugbpbh
IPV6_PDP_context_act_fail_by_system_fault	ACCUMULATION	INTEGER	Times of failed IPV6 PDP context activation caused by system failure.	M134221228.G134686661	Sum	hugactpbh, hugbpbh
IPV6_PDP_context_act_fail_by_unknown_APN	ACCUMULATION	INTEGER	Times of failed IPV6 PDP context activation caused by unknown APNs.	M134221228.G134686656	Sum	hugactpbh, hugbpbh

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IPV6_PDP_context_act_fail_by_unknown_PDP_address_or_PDP_type	ACCUMULATION	INTEGER	Times of failed IPV6 PDP context activation caused by unknown PDP addresses or types.	M134221228.G134686659	Sum	hugactpbh, hugbpbh
IPV6_PDP_context_reqs_activate	ACCUMULATION	INTEGER	Attempts of IPV6 PDP context activation request received by the GGSN.	M134221228.G134686650	Sum	hugactpbh, hugbpbh
IPv6_PDP_context_succ_activate	ACCUMULATION	INTEGER	Successful times of IPV6 PDP context activation by the GGSN.	M134221228.G134686651	Sum	hugactpbh, hugbpbh
IPv6_PDP_current_activated_context	INTENSITY	INTEGER	IPV6 PDP contexts which are in activated status in GGSN system	M134221228.G134686668	Average	hugactpbh, hugbpbh, Sum, Minimum, Maximum
IPV6_PDP_maximum_simultaneously_activated_context	INTENSITY	INTEGER	The maximum number of IPV6 PDP contexts activated by GGSN.	M134221228.G134686670	Average	hugactpbh, hugbpbh, Sum, Minimum, Maximum

7.3.4 GGSN.Huawei.GPRS.Basic_session

Basic session measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators

_%_Succ_PDP_context_1Tunnel_chg_to_2Tunnel	PERCENTAGE	FLOAT	Percentage of successful PDP context of One Tunnel change to PDP context of Two Tunnel	100 * {Succ_PDP_context_1Tunnel_chg_to_PDP_context_2Tunnel}/ {PDP_context_1Tunnel_req_chg_PDP_context_2Tunnel}	Average	hugactpbh, hugbpbh
_%_Succ_PDP_context_2Tunnel_chg_to_1Tunnel	PERCENTAGE	FLOAT	Percentage of successful PDP context of Two Tunnel change to PDP context of One Tunnel	100 * {Succ_PDP_context_2Tunnel_chg_to_PDP_context_1Tunnel}/ {PDP_context_2Tunnel_req_chg_PDP_context_1Tunnel}	Average	hugactpbh, hugbpbh
_%_Successful_PDP_deactivation	PERCENTAGE	FLOAT	percentage of Successful times of PDP context deactivation by the GGSN	100 * {Huawei.Basic_session.PDP_context_deact_success}/ {Huawei.Basic_session.PDP_context_deact}	Average	hugactpbh, hugbpbh
Active_PDP_context_failed_reach_max_for_PPP_regen	ACCUMULATION	INTEGER	PPP regenerative user activation failure caused by maximum users	M134221228.G134686607	Sum	hugactpbh, hugbpbh
Active_PDP_context_failed_unavailable_resource_for_PPP_regen	ACCUMULATION	INTEGER	PPP regenerative user activation failure caused by limited resource	M134221228.G134686606	Sum	hugactpbh, hugbpbh
Avg_act_PDP_context	INTENSITY	INTEGER	Average PDP contexts activated by	M134221228.G134686595	Average	hugactpbh, hugbpbh,

			GGSN			Maximum, Minimum, Sum
Background_class_PDP_context	ACCUMULATION	INTEGER	Number of Background class PDP contexts	M134221228.G134686616	Sum	hugactpbh, hugbpbh
Congestion_duration	ACCUMULATION	INTEGER	Total duration of GGSN users congestion	M134221228.G134686596	Sum	hugactpbh, hugbpbh
Conversational_class_PDP_context	ACCUMULATION	INTEGER	Number of Conversational class PDP contexts	M134221228.G134686613	Sum	hugactpbh, hugbpbh
Current_act_1Tunnel_PDP_context	INTENSITY	INTEGER	Current activated One Tunnel PDP contexts	M134221228.G134686644	Average	hugactpbh, hugbpbh, Sum, Minimum, Maximum
Current_number_active_GTPV0_PDP_context	INTENSITY	INTEGER	Number of users whose activated PDP context is of V0 type	M134221228.G134686619	Average	hugactpbh, hugbpbh, Maximum, Minimum, Sum
Current_number_active_GTPV1_PDP_context	INTENSITY	INTEGER	Number of users whose activated PDP context is of V1 type	M134221228.G134686620	Average	hugactpbh, hugbpbh, Maximum, Minimum, Sum
Current_PDP_contexts_with_GGSN_assigned_QoS	INTENSITY	INTEGER	PDP contexts apply the QOS that is assigned by the GGSN.	M134221228.G134686612	Average	hugactpbh, hugbpbh, Maximu

						m, Minimum, Sum
Failed_to_respond_to_an_GTP_Echo_Request_messages	ACCUMULATION	INTEGER	Failed times of the GGSN to send a GTP Echo Request message to the opposite equipment	M134221228.G134686610	Sum	hugactpbh, hugbpbh
GGSN_Received_error_packets	ACCUMULATION	INTEGER	Error packets received by GGSN	M134221228.G134686582	Sum	hugactpbh, hugbpbh
GGSN_Received_Packets	ACCUMULATION	INTEGER	Packets received by GGSN	M134221228.G134686581	Sum	hugactpbh, hugbpbh
GGSN_received_Path_Manager_Packets	ACCUMULATION	INTEGER	Path management packets received by GGSN	M134221228.G134686586	Sum	hugactpbh, hugbpbh
GGSN_Received_SM_Packets	ACCUMULATION	INTEGER	Session management packets received by GGSN	M134221228.G134686584	Sum	hugactpbh, hugbpbh
GGSN_Sent_Packets	ACCUMULATION	INTEGER	Packets sent by GGSN	M134221228.G134686583	Sum	hugactpbh, hugbpbh
GGSN_Sent_Path_Manager_Packets	ACCUMULATION	INTEGER	Path management packets sent by GGSN	M134221228.G134686587	Sum	hugactpbh, hugbpbh
GGSN_Sent_SM_Packets	ACCUMULATION	INTEGER	Session management packets sent by	M134221228.G134686585	Sum	hugactpbh, hugbpbh

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			GGSN			
Gn_GTP_tunnels_created_num	ACCUMULATION	INTEGER	The number of the GTP tunnels created on the Gn interface	M134221228.G134686643	Sum	hugactpbh, hugbpbh
Gn_GTP_tunnels_num	ACCUMULATION	INTEGER	The number of the GTP tunnels on the Gn interface, including signaling tunnels and data tunnels	M134221228.G134686642	Sum	hugactpbh, hugbpbh
GTP_C_path_down_times	ACCUMULATION	INTEGER	Statistics of GGSN GTP signaling path broken times	M134221228.G134686589	Sum	hugactpbh, hugbpbh
GTP_C_peer_restart_times	ACCUMULATION	INTEGER	Statistics of the peer restarting times	M134221228.G134686588	Sum	hugactpbh, hugbpbh
Incoming_GTP_signalling_kbytes	ACCUMULATION	INT8	Incoming GTP signaling packets in KB	M134221228.G134686617	Sum	hugactpbh, hugbpbh
Interactive_class_PDP_context	ACCUMULATION	INTEGER	Number of Interactive class PDP contexts	M134221228.G134686615	Sum	hugactpbh, hugbpbh
Max_users_with_act_PDP_context	INTENSITY	INTEGER	Maximum number of PDP contexts activated by GGSN	M134221228.G134686597	Average	hugactpbh, hugbpbh, Maximum, Minimum, Sum
Maximum_requests_of_PDP_context_activation	INTENSITY	INTEGER	The maximum requests of PDP context activation received by the GGSN per	M134221228.G134686641	Average	hugactpbh, hugbpbh, Maximum, Minimu

			second.			m, Sum
Outgoing_GTP_signalling_kbytes	ACCUMULATION	INT8	Outgoing GTP signaling packets in KB	M134221228.G134686618	Sum	hugactpbh, hugbpbh
PDP_context_1Tunnel_req_chg_PDP_context_2Tunnel	ACCUMULATION	INTEGER	PDP context of One Tunnel requests change to PDP context of Two Tunnel	M134221228.G134686645	Sum	hugactpbh, hugbpbh
PDP_context_2Tunnel_req_chg_PDP_context_1Tunnel	ACCUMULATION	INTEGER	PDP context of Two Tunnel requests change to PDP context of One Tunnel	M134221228.G134686647	Sum	hugactpbh, hugbpbh
PDP_context_act_duration	ACCUMULATION	INTEGER	PDP context activation time initiated by MS	M134221228.G134686594	Sum	hugactpbh, hugbpbh
PDP_context_act_fail_AAA_Server_No_IP	ACCUMULATION	INTEGER	PDP context act. failed - AAA Server No IP	M134221228.G134686780	Sum	hugactpbh, hugbpbh
PDP_context_act_fail_APN_access_denied_no_subscription	ACCUMULATION	INTEGER	PDP context act. failed - APN access denied_no subscription	M134221228.G134686671	Sum	hugactpbh, hugbpbh
PDP_context_act_fail_APN_Lock	ACCUMULATION	INTEGER	PDP context act. failed - APN Lock	M134221228.G134686679	Sum	hugactpbh, hugbpbh
PDP_context_act_fail_APN_Restrict_incomp	ACCUMULATION	INTEGER	PDP context act. failed - APN Restriction type incompatibility	M134221228.G134686649	Sum	hugactpbh, hugbpbh
PDP_context_a	ACCUMULA	INTEG	Times of failed	M134221228.G134	Sum	hugactpb

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ct_fail_by_auth_failed	TION	ER	PDP context activation caused by failed authentication	686629		h, hugbpbh
PDP_context_act_fail_by_invalid_message_format	ACCUMULATION	INTEGER	Times of failed PDP context activation caused by invalid message format	M134221228.G134686624	Sum	hugactpbh, hugbpbh
PDP_context_act_fail_by_mandatory_IE_incorrect	ACCUMULATION	INTEGER	Times of failed PDP context activation caused by error of mandatory IEs	M134221228.G134686621	Sum	hugactpbh, hugbpbh
PDP_context_act_fail_by_mandatory_IE_missing	ACCUMULATION	INTEGER	Times of failed PDP context activation caused by loss of mandatory IEs	M134221228.G134686622	Sum	hugactpbh, hugbpbh
PDP_context_act_fail_by_missing_or_unknown_APN	ACCUMULATION	INTEGER	Times of failed PDP context activation caused by unknown APNs	M134221228.G134686625	Sum	hugactpbh, hugbpbh
PDP_context_act_fail_by_no_dynamic_PDP_addresses	ACCUMULATION	INTEGER	Times of failed PDP context activation caused by no dynamic PDP addresses	M134221228.G134686626	Sum	hugactpbh, hugbpbh
PDP_context_act_fail_by_no_memory	ACCUMULATION	INTEGER	Times of failed PDP context activation caused by no free memory	M134221228.G134686627	Sum	hugactpbh, hugbpbh
PDP_context_act_fail_by_optio	ACCUMULATION	INTEGER	Times of failed PDP context	M134221228.G134686623	Sum	hugactpbh,

nal_IE_incorrect			activation caused by error of optional IEs			hugbpbh
PDP_context_act_fail_by_PDP_without_TFT_already_act	ACCUMULATION	INTEGER	Times of failed PDP context activation caused by no activated TFT context	M134221228.G134686635	Sum	hugactpbh, hugbpbh
PDP_context_act_fail_by_semantic_err_in_packet_filters	ACCUMULATION	INTEGER	Times of failed PDP context activation caused by semantic error during packet filtering	M134221228.G134686633	Sum	hugactpbh, hugbpbh
PDP_context_act_fail_by_semantic_err_in_TFT_operation	ACCUMULATION	INTEGER	Times of failed PDP context activation caused by semantic error of TFT operations	M134221228.G134686631	Sum	hugactpbh, hugbpbh
PDP_context_act_fail_by_syntactic_err_in_packet_filters	ACCUMULATION	INTEGER	Times of failed PDP context activation caused by syntax error during packet filtering	M134221228.G134686634	Sum	hugactpbh, hugbpbh
PDP_context_act_fail_by_syntactic_err_in_TFT_operation	ACCUMULATION	INTEGER	Times of failed PDP context activation caused by syntax error of TFT operations	M134221228.G134686632	Sum	hugactpbh, hugbpbh
PDP_context_a	ACCUMULA	INTEG	Times of failed	M134221228.G134	Sum	hugactpb

ct_fail_by_system_fault	TION	ER	PDP context activation caused by system failure	686630		h, hugbpbh
PDP_context_act_fail_by_unknown_PDP_address_or_PDP_type	ACCUMULATION	INTEGER	Times of failed PDP context activation caused by unknown PDP addresses or types	M134221228.G134686628	Sum	hugactpbh, hugbpbh
PDP_context_act_fail_CPU_Overload	ACCUMULATION	INTEGER	PDP context act. failed - CPU Overload	M134221228.G134686680	Sum	hugactpbh, hugbpbh
PDP_context_act_fail_DHCP_Server_No_Response	ACCUMULATION	INTEGER	PDP context act. failed - DHCP Server No Response	M134221228.G134686674	Sum	hugactpbh, hugbpbh
PDP_context_act_fail_LNS_Forbidden_Static_IP	ACCUMULATION	INTEGER	PDP context act. failed - LNS Forbidden Static IP	M134221228.G134686754	Sum	hugactpbh, hugbpbh
PDP_context_act_fail_LNS_No_Response	ACCUMULATION	INTEGER	PDP context act. failed - LNS No Response	M134221228.G134686675	Sum	hugactpbh, hugbpbh
PDP_context_act_fail_OCS_Server_No_Response	ACCUMULATION	INTEGER	PDP context act. failed - OCS Server No Response	M134221228.G134686676	Sum	hugactpbh, hugbpbh
PDP_context_act_fail_PCRF_No_Response	ACCUMULATION	INTEGER	PDP context act. failed - PCRF No Response	M134221228.G134686677	Sum	hugactpbh, hugbpbh
PDP_context_act_fail_Radius_Account_Server_No_Response	ACCUMULATION	INTEGER	PDP context act. failed - Radius Account Server No Response	M134221228.G134686673	Sum	hugactpbh, hugbpbh
PDP_context_a	ACCUMULA	INTEG	PDP context	M134221228.G134	Sum	hugactpb

ct_fail_Radius_Authentication_Server_No_Response	TION	ER	act. failed - Radius Authentication Server No Response	686672		h, hugbpbh
PDP_context_act_fail_roaming_restriction	ACCUMULATION	INTEGER	PDP context act. failed - roaming restriction	M134221228.G134686755	Sum	hugactpbh, hugbpbh
PDP_context_act_fail_service_not_support	ACCUMULATION	INTEGER	PDP context act. failed - service not support	M134221228.G134686756	Sum	hugactpbh, hugbpbh
PDP_context_act_fail_Slot_Lock	ACCUMULATION	INTEGER	PDP context act. failed - Slot Lock	M134221228.G134686678	Sum	hugactpbh, hugbpbh
PDP_context_act_fail	ACCUMULATION	INTEGER	Failed times of PDP context activation	M134221228.G134686592	Sum	hugactpbh, hugbpbh
PDP_context_act_success_ratio	INTENSITY	FLOAT	Successful rate of PDP context activation program	M134221228.G134686593	Average	hugactpbh, hugbpbh, Maximum, Minimum, Sum
PDP_context_act_success	ACCUMULATION	INTEGER	Successful times of PDP context activation by the GGSN	M134221228.G134686591	Sum	hugactpbh, hugbpbh
PDP_context_act	ACCUMULATION	INTEGER	Attempts of PDP context activation request received by the	M134221228.G134686590	Sum	hugactpbh, hugbpbh

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			GGSN			
PDP_context_deact_fail_by_invalid_message_format	ACCUMULATION	INTEGER	Times of failed PDP context deactivation caused by invalid message format	M134221228.G134686640	Sum	hugactpbh, hugbpbh
PDP_context_deact_fail_by_mandatory_IE_incorrect	ACCUMULATION	INTEGER	Times of failed PDP context deactivation caused by error of mandatory IEs	M134221228.G134686637	Sum	hugactpbh, hugbpbh
PDP_context_deact_fail_by_mandatory_IE_missing	ACCUMULATION	INTEGER	Times of failed PDP context deactivation caused by loss of mandatory IEs	M134221228.G134686638	Sum	hugactpbh, hugbpbh
PDP_context_deact_fail_by_non_existent	ACCUMULATION	INTEGER	Times of failed PDP context deactivation caused by non-existence of PDP	M134221228.G134686636	Sum	hugactpbh, hugbpbh
PDP_context_deact_fail_by_optional_IE_Incorrect	ACCUMULATION	INTEGER	Times of failed PDP context deactivation caused by error of optional IEs	M134221228.G134686639	Sum	hugactpbh, hugbpbh
PDP_context_deact_success	ACCUMULATION	INTEGER	Successful times of PDP context deactivation by the GGSN	M134221228.G134686599	Sum	hugactpbh, hugbpbh
PDP_context_deact	ACCUMULATION	INTEGER	Attempts of PDP context deactivation request received by the GGSN	M134221228.G134686598	Sum	hugactpbh, hugbpbh

PDP_Context_num	ACCUMULATION	INTEGER	PDP contexts which are in activated status in GGSN system	M134221228.G134686600	Sum	hugactpbh, hugbpbh
PDP_contexts_request_fail_for_limited_resource	ACCUMULATION	INTEGER	GGSN receives the users activation request and the GGSN resource reaches the upper limit.	M134221228.G134686602	Sum	hugactpbh, hugbpbh
PDP_usage_ratio	INTENSITY	INTEGER	The current PDP contexts in GGSN system/PDP contexts which the License permit	M134221228.G134686601	Average	hugactpbh, hugbpbh, Maximum, Minimum, Sum
PPP_PDP_contexts_currently_active	INTENSITY	INTEGER	PPP PDP contexts that are currently activated	M134221228.G134686608	Average	hugactpbh, hugbpbh, Maximum, Minimum, Sum
PPP_Regen_PDP_contexts_currently_active	INTENSITY	INTEGER	PPP-Regenerative PDP contexts that are currently activated	M134221228.G134686609	Average	hugactpbh, hugbpbh, Maximum, Minimum, Sum
Received_GTP_packets_dropped	ACCUMULATION	INTEGER	Received GTP packets dropped	M134221228.G134686611	Sum	hugactpbh, hugbpbh
Streaming_class	ACCUMULA	INTEG	Number of	M134221228.G134	Sum	hugactpb

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_context	TION	ER	Streaming class PDP contexts	686614		h, hugbpbh
Succ_PDP_context_1Tunnel_chg_to_PDP_context_2Tunnel	ACCUMULATION	INTEGER	Successful PDP context of One Tunnel change to PDP context of Two Tunnel	M134221228.G134686646	Sum	hugactpbh, hugbpbh
Succ_PDP_context_2Tunnel_chg_to_PDP_context_1Tunnel	ACCUMULATION	INTEGER	Successful PDP context of Two Tunnel change to PDP context of One Tunnel	M134221228.G134686648	Sum	hugactpbh, hugbpbh
Total_number_of_PPP_PDP_contexts_created	ACCUMULATION	INTEGER	PPP PDP contexts that are created successfully	M134221228.G134686604	Sum	hugactpbh, hugbpbh
Total_PPP_PDP_contexts_deleted	ACCUMULATION	INTEGER	PPP PDP contexts that are deleted successfully	M134221228.G134686605	Sum	hugactpbh, hugbpbh
Unexpected_GTP_messages_received	ACCUMULATION	INTEGER	GGSN receives unexpected GTP messages.	M134221228.G134686603	Sum	hugactpbh, hugbpbh

7.3.5 GGSN.Huawei.GPRS.CLIT

**Obsolete in GGSN/V800R006 C02. X1 and X2 interfaces connections

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
Receiving_creating_Tunnel_response_success_times	ACCUMULATION	INTEGER	Obsolete from GGSN/V800R006 C01B010:Receiving creating Tunnel response success times	M134221260.G134708728	Sum	hugactpbh, hugbpbh
Receiving_creating_Tunnel_res	ACCUMULATION	INTEGER	Obsolete from GGSN/V800R0	M134221260.G134708727	Sum	hugactpbh,

ponse_times			06 C01B010:Receiving creating Tunnel response times			hugbpbh
Receiving_flow_by_Tunnel	ACCUMULATION	INTEGER	Obsolete from GGSN/V800R006 C01B010:Receiving flow by Tunnel	M134221260.G134708724	Sum	hugactpbh, hugbpbh
Receiving_release_Tunnel_request_success_times	ACCUMULATION	INTEGER	Obsolete from GGSN/V800R006 C01B010:Receiving release Tunnel request success times	M134221260.G134708732	Sum	hugactpbh, hugbpbh
Receiving_release_Tunnel_request_times	ACCUMULATION	INTEGER	Obsolete from GGSN/V800R006 C01B010:Receiving release Tunnel request times	M134221260.G134708731	Sum	hugactpbh, hugbpbh
Sending_creating_Tunnel_request_success_times	ACCUMULATION	INTEGER	Obsolete from GGSN/V800R006 C01B010:Sending creating Tunnel request success times	M134221260.G134708726	Sum	hugactpbh, hugbpbh
Sending_creating_Tunnel_request_times	ACCUMULATION	INTEGER	Obsolete from GGSN/V800R006 C01B010:Sending creating Tunnel request	M134221260.G134708725	Sum	hugactpbh, hugbpbh

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			times			
Sending_flow_by_Tunnel	ACCUMULATION	INTEGER	Obsolete from GGSN/V800R006 C01B010:Sending flow by Tunnel	M134221260.G134708723	Sum	hugactpbh, hugbpbh
Sending_IDP_success_times_by_Tunnel	ACCUMULATION	INTEGER	Obsolete from GGSN/V800R006 C01B010:Sending IDP success times by Tunnel	M134221260.G134708734	Sum	hugactpbh, hugbpbh
Sending_IDP_times_by_Tunnel	ACCUMULATION	INTEGER	Obsolete from GGSN/V800R006 C01B010:Sending IDP times by Tunnel	M134221260.G134708733	Sum	hugactpbh, hugbpbh
Sending_release_Tunnel_request_success_times	ACCUMULATION	INTEGER	Obsolete from GGSN/V800R006 C01B010:Sending release Tunnel request success times	M134221260.G134708730	Sum	hugactpbh, hugbpbh
Sending_release_Tunnel_request_times	ACCUMULATION	INTEGER	Obsolete from GGSN/V800R006 C01B010:Sending release Tunnel request times	M134221260.G134708729	Sum	hugactpbh, hugbpbh
X1_interface_Receiving_connection_release_request_times	ACCUMULATION	INTEGER	Obsolete from GGSN/V800R006 C01B010:X1 interface Receiving connection release request	M134221260.G134708708	Sum	hugactpbh, hugbpbh

			times			
X1_interface_Receiving_connnection_response_times	ACCUMULATION	INTEGER	Obsolete from GGSN/V800R006 C01B010:X1 interface Receiving connection response times	M134221260.G134708701	Sum	hugactpbh, hugbpbh
X1_interface_Receiving_connnection_response	ACCUMULATION	INTEGER	Obsolete from GGSN/V800R006 C01B010:X1 interface Receiving connection response	M134221260.G134708703	Sum	hugactpbh, hugbpbh
X1_interface_Receiving_message_counter	ACCUMULATION	INTEGER	Obsolete from GGSN/V800R006 C01B010:X1 interface Receiving message counter	M134221260.G134708704	Sum	hugactpbh, hugbpbh
X1_interface_Receiving_message_flow	ACCUMULATION	INTEGER	Obsolete from GGSN/V800R006 C01B010:X1 interface Receiving message flow	M134221260.G134708709	Sum	hugactpbh, hugbpbh
X1_interface_sending_connection_release_request_success_times	ACCUMULATION	INTEGER	Obsolete from GGSN/V800R006 C01B010:X1 interface sending	M134221260.G134708707	Sum	hugactpbh, hugbpbh

			connection release request success times			
X1_interface_sending_connection_release_request_times	ACCUMULATION	INTEGER	Obsolete from GGSN/V800R006 C01B010:X1 interface sending connection release request times	M134221260.G134708706	Sum	hugactpbh, hugbpbh
X1_interface_sending_connnection_request_times	ACCUMULATION	INTEGER	Obsolete from GGSN/V800R006 C01B010:X1 interface sending connection request times	M134221260.G134708702	Sum	hugactpbh, hugbpbh
X1_interface_sending_message_counter	ACCUMULATION	INTEGER	Obsolete from GGSN/V800R006 C01B010:X1 interface sending message counter	M134221260.G134708705	Sum	hugactpbh, hugbpbh
X1_interface_sending_message_flow	ACCUMULATION	INTEGER	Obsolete from GGSN/V800R006 C01B010:X1 interface sending message flow	M134221260.G134708710	Sum	hugactpbh, hugbpbh
X2_interface_Receiving_connection_release_request_times	ACCUMULATION	INTEGER	Obsolete from GGSN/V800R006 C01B010:X2 interface Receiving connection release request	M134221260.G134708719	Sum	hugactpbh, hugbpbh

			times			
X2_interface_Receiving_connnection_response_success_times	ACCUMULATION	INTEGER	Obsolete from GGSN/V800R006 C01B010:X2 interface Receiving connection response success times	M134221260.G134708716	Sum	hugactpbh, hugbpbh
X2_interface_Receiving_connnection_response_times	ACCUMULATION	INTEGER	Obsolete from GGSN/R002:X2 interface Receiving connection response times	M134221260.G134708715	Sum	hugactpbh, hugbpbh
X2_interface_Receiving_flow	ACCUMULATION	INTEGER	Obsolete from GGSN/V800R006 C01B010:X2 interface Receiving flow	M134221260.G134708712	Sum	hugactpbh, hugbpbh
X2_interface_sending_alarm_times	ACCUMULATION	INTEGER	Obsolete from GGSN/V800R006 C01B010:X2 interface sending alarm times	M134221260.G134708720	Sum	hugactpbh, hugbpbh
X2_interface_sending_connection_release_request_success_times	ACCUMULATION	INTEGER	Obsolete from GGSN/V800R006 C01B010:X2 interface sending connection release request success times	M134221260.G134708718	Sum	hugactpbh, hugbpbh

X2_interface_sending_connection_release_request_times	ACCUMULATION	INTEGER	Obsolete from GGSN/V800R006 C01B010:X2 interface sending connection release request times	M134221260.G134708717	Sum	hugactpbh, hugbpbh
X2_interface_sending_connnection_request_times	ACCUMULATION	INTEGER	Obsolete from GGSN/V800R006 C01B010:X2 interface sending connection request times	M134221260.G134708713	Sum	hugactpbh, hugbpbh
X2_interface_sending_flow	ACCUMULATION	INTEGER	Obsolete from GGSN/V800R006 C01B010:X2 interface sending flow	M134221260.G134708711	Sum	hugactpbh, hugbpbh
X2_interface_sending_IRI_success_times	ACCUMULATION	INTEGER	Obsolete from GGSN/V800R006 C01B010:X2 interface sending IRI success times	M134221260.G134708722	Sum	hugactpbh, hugbpbh
X2_interface_sending_IRI_times	ACCUMULATION	INTEGER	Obsolete from GGSN/V800R006 C01B010:X2 interface sending IRI times	M134221260.G134708721	Sum	hugactpbh, hugbpbh

7.3.6 GGSN.Huawei.GPRS.DHCP

DHCP performance measurement

KPI	Type	Data	Description	Derivation	Default	Other

		Type			Aggregator	Aggregators
_%_DHCP_address_allocation_failures	PERCENTAGE	FLOAT	Percentage failures to obtain the IP addresses from the DHCP server although the request for DHCP address allocation is received	100 * {DHCP_address_allocation_failures}/ ({DHCP_address_allocation_successes} + {DHCP_address_allocation_failures})	Average	hugactpbh, hugbpbh
DHCP_address_allocation_failures	ACCUMULATION	INTEGER	Failed times to obtain the IP addresses from the DHCP server although the request for DHCP address allocation is received	M134221243.G134687383	Sum	hugactpbh, hugbpbh
DHCP_address_allocation_successes	ACCUMULATION	INTEGER	Successful times that the user obtains the IP addresses from the DHCP server	M134221243.G134687382	Sum	hugactpbh, hugbpbh
Received_DHCP_add_alloc_requests	ACCUMULATION	INTEGER	Requests of received DHCP address allocation from the user	M134221243.G134687381	Sum	hugactpbh, hugbpbh

7.3.7 GGSN.Huawei.GPRS.Different_service_PDP_context

User with ARP high/medium/low level and traffic class (conversational, streaming, background, interactive)

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators

High_level_background_PDP_contexts	ACCUMULATION	INTEGER	Number of the user whose ARP is high level and traffic class is background, real-time value	M134221258.G134708507	Sum	hugactpbh, hugbpbh
High_level_conversation_PDP_contexts	ACCUMULATION	INTEGER	Number of the user whose ARP is high level and traffic class is conversational, real-time value	M134221258.G134708501	Sum	hugactpbh, hugbpbh
High_level_interactiveTrafficPri1_PDP_contexts	ACCUMULATION	INTEGER	Number of the user whose ARP is high level and traffic class is InteractiveTrafficPri 1, real-time value	M134221258.G134708504	Sum	hugactpbh, hugbpbh
High_level_interactiveTrafficPri2_PDP_contexts	ACCUMULATION	INTEGER	Number of the user whose ARP is high level and traffic class is InteractiveTrafficPri 2, real-time value	M134221258.G134708505	Sum	hugactpbh, hugbpbh
High_level_interactiveTrafficPri3_PDP_contexts	ACCUMULATION	INTEGER	Number of the user whose ARP is high level and traffic class is InteractiveTrafficPri 3, real-time value	M134221258.G134708506	Sum	hugactpbh, hugbpbh
High_level_streamingGBRLess25Kbps_PDP_contexts	ACCUMULATION	INTEGER	Number of the user whose ARP is high level and traffic class is streamingGBRLess25Kbps, real-time value	M134221258.G134708503	Sum	hugactpbh, hugbpbh
High_level_streamin	ACCUMULA	INTEG	Number of the user	M1342212	Sum	hugactpb

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gGBRMore25Kbps_PDP_contexts	TION	ER	whose ARP is high level and traffic class is streamingGBRMore25Kbps, real-time value	58.G13470 8502		h, hugbpbh
Low_level_background_PDP_contexts	ACCUMULATION	INTEGER	Number of the user whose ARP is low level and traffic class is background, real-time value	M1342212 58.G13470 8521	Sum	hugactpbh, hugbpbh
Low_level_conversation_PDP_contexts	ACCUMULATION	INTEGER	Number of the user whose ARP is high level and traffic class is conversational, real-time value	M1342212 58.G13470 8515	Sum	hugactpbh, hugbpbh
Low_level_interactiveTrafficPri1_PDP_contexts	ACCUMULATION	INTEGER	Number of the user whose ARP is low level and traffic class is InteractiveTrafficPri1, real-time value	M1342212 58.G13470 8518	Sum	hugactpbh, hugbpbh
Low_level_interactiveTrafficPri2_PDP_contexts	ACCUMULATION	INTEGER	Number of the user whose ARP is low level and traffic class is InteractiveTrafficPri2, real-time value	M1342212 58.G13470 8519	Sum	hugactpbh, hugbpbh
Low_level_interactiveTrafficPri3_PDP_contexts	ACCUMULATION	INTEGER	Number of the user whose ARP is low level and traffic class is InteractiveTrafficPri3, real-time value	M1342212 58.G13470 8520	Sum	hugactpbh, hugbpbh
Low_level_streamingGBRLess25Kbps_PDP_contexts	ACCUMULATION	INTEGER	Number of the user whose ARP is low level and traffic class is streamingGBRLess25Kbps, real-time value	M1342212 58.G13470 8517	Sum	hugactpbh, hugbpbh

Low_level_streamingGBRMore25Kbps_PDP_contexts	ACCUMULATION	INTEGER	Number of the user whose ARP is low level and traffic class is streamingGBRMore25Kbps, real-time value	M134221258.G134708516	Sum	hugactpbh, hugbpbh
Normal_level_background_PDP_contexts	ACCUMULATION	INTEGER	Number of the user whose ARP is normal level and traffic class is background, real-time value	M134221258.G134708514	Sum	hugactpbh, hugbpbh
Normal_level_conversation_PDP_contexts	ACCUMULATION	INTEGER	Number of the user whose ARP is high level and traffic class is conversational, real-time value	M134221258.G134708508	Sum	hugactpbh, hugbpbh
Normal_level_interactiveTrafficPri1_PDP_contexts	ACCUMULATION	INTEGER	Number of the user whose ARP is normal level and traffic class is InteractiveTrafficPri1, real-time value	M134221258.G134708511	Sum	hugactpbh, hugbpbh
Normal_level_interactiveTrafficPri2_PDP_contexts	ACCUMULATION	INTEGER	Number of the user whose ARP is normal level and traffic class is InteractiveTrafficPri2, real-time value	M134221258.G134708512	Sum	hugactpbh, hugbpbh
Normal_level_interactiveTrafficPri3_PDP_contexts	ACCUMULATION	INTEGER	Number of the user whose ARP is normal level and traffic class is InteractiveTrafficPri3, real-time value	M134221258.G134708513	Sum	hugactpbh, hugbpbh

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Normal_level_streamingGBRLess25Kbps_PDP_contexts	ACCUMULATION	INTEGER	Number of the user whose ARP is normal level and traffic class is streamingGBRLess25Kbps, real-time value	M134221258.G134708510	Sum	hugactpbh, hugbpbh
Normal_level_streamingGBRMore25Kbps_PDP_contexts	ACCUMULATION	INTEGER	Number of the user whose ARP is normal level and traffic class is streamingGBRMore25Kbps, real-time value	M134221258.G134708509	Sum	hugactpbh, hugbpbh

7.3.8 GGSN.Huawei.GPRS.G_CDR

G-CDR measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
_%_CDRs_create_fault	PERCENTAGE	FLOAT	Percentage of specific users bills which are created unsuccessfully	100 * {CDRs_create_fault}/ ({CDRs_create_fault} + {CDRs_create_success})	Average	hugactpbh, hugbpbh
Access_points_CDRs_being_collected	ACCUMULATION	INTEGER	Number of access points for which charging data is being collected	M134221230.G134686783	Sum	hugactpbh, hugbpbh
CDRs_create_fault	ACCUMULATION	INTEGER	Perform the statistics about the specific users bills which are created unsuccessfully	M134221230.G134686782	Sum	hugactpbh, hugbpbh
CDRs_create_s	ACCUMULA	INTEG	Perform the	M134221230.G134	Sum	hugactpb

uccess	TION	ER	statistics about the specific users bills which are created successfully	686781		h, hugbpbh
Create_user_eG_CDR_failth	ACCUMULATION	INTEGER	Obsolete from GGSN/V800R006 C01B010:Total number of eG-CDRs that are created unsuccessfully	M134221230.G134686788	Sum	hugactpbh, hugbpbh
Create_user_eG_CDR_success	ACCUMULATION	INTEGER	Obsolete from GGSN/V800R006 C01B010:Total number of eG-CDRs that are created successfully	M134221230.G134686787	Sum	hugactpbh, hugbpbh
Currently_opened_charging_containers	INTENSITY	INTEGER	Number of charging containers that are opened successfully	M134221230.G134686784	Average	hugactpbh, hugbpbh, Maximum, Minimum, Sum
Total_number_of_CDRs_opened	ACCUMULATION	INTEGER	Total number of users bills that are created successfully	M134221230.G134686785	Sum	hugactpbh, hugbpbh
Total_number_of_containers_created	ACCUMULATION	INTEGER	Total number of containers that are created successfully	M134221230.G134686786	Sum	hugactpbh, hugbpbh

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7.3.9 GGSN.Huawei.GPRS.GTP_data_by_traffic_class

GTP data per traffic class (conversational, streaming, interactive and background) on the Gn interface

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
Background_class_incoming_GTP_data_kbytes	ACCUMULATION	INT8	Number of GTP data kbytes received by the Gn interface, based on background traffic class	M134221250.G134707528	Sum	hugactpbh, hugbpbh
Background_class_incoming_GTP_data_packets	ACCUMULATION	INT8	Number of GTP data packets received by the Gn interface, based on background traffic class	M134221250.G134707520	Sum	hugactpbh, hugbpbh
Background_class_outgoing_GTP_data_kbytes	ACCUMULATION	INT8	Number of GTP data kbytes sent by the Gn interface, based on background traffic class	M134221250.G134707532	Sum	hugactpbh, hugbpbh
Background_class_outgoing_GTP_data_packets	ACCUMULATION	INT8	Number of GTP data packets sent by the Gn interface, based on background traffic class	M134221250.G134707524	Sum	hugactpbh, hugbpbh
Conversational_class_incoming_GTP_data_kbytes	ACCUMULATION	INT8	Number of GTP data kbytes received by the Gn interface, based on conversational traffic class	M134221250.G134707525	Sum	hugactpbh, hugbpbh
Conversational_class_incoming_GTP_data_packe	ACCUMULATION	INT8	Number of GTP data packets received by the	M134221250.G134707517	Sum	hugactpbh, hugbpbh

ts			Gn interface, based on conversational traffic class			
Conversational_class_outgoing_GTP_data_kbytes	ACCUMULATION	INT8	Number of GTP data kbytes sent by the Gn interface, based on conversational traffic class	M134221250.G134707529	Sum	hugactpbh, hugbpbh
Conversational_class_outgoing_GTP_data_packets	ACCUMULATION	INT8	Number of GTP data packets sent by the Gn interface, based on conversational traffic class	M134221250.G134707521	Sum	hugactpbh, hugbpbh
Interactive_class_incoming_GTP_data_kbytes	ACCUMULATION	INT8	Number of GTP data kbytes received by the Gn interface, based on interactive traffic class	M134221250.G134707527	Sum	hugactpbh, hugbpbh
Interactive_class_incoming_GTP_data_packets	ACCUMULATION	INT8	Number of GTP data packets received by the Gn interface, based on interactive traffic class	M134221250.G134707519	Sum	hugactpbh, hugbpbh
Interactive_class_outgoing_GTP_data_kbytes	ACCUMULATION	INT8	Number of GTP data kbytes sent by the Gn interface, based on interactive traffic class	M134221250.G134707531	Sum	hugactpbh, hugbpbh

Interactive_class_outgoing_GTP_data_packets	ACCUMULATION	INT8	Number of GTP data packets sent by the Gn interface, based on interactive traffic class	M134221250.G134707523	Sum	hugactpbh, hugbpbh
Streaming_class_incoming_GTP_data_kbytes	ACCUMULATION	INT8	Number of GTP data kbytes received by the Gn interface, based on streaming traffic class	M134221250.G134707526	Sum	hugactpbh, hugbpbh
Streaming_class_incoming_GTP_data_packets	ACCUMULATION	INT8	Number of GTP data packets received by the Gn interface, based on streaming traffic class	M134221250.G134707518	Sum	hugactpbh, hugbpbh
Streaming_class_outgoing_GTP_data_kbytes	ACCUMULATION	INT8	Number of GTP data kbytes sent by the Gn interface, based on streaming traffic class	M134221250.G134707530	Sum	hugactpbh, hugbpbh
Streaming_class_outgoing_GTP_data_packets	ACCUMULATION	INT8	Number of GTP data packets sent by the Gn interface, based on streaming traffic class	M134221250.G134707522	Sum	hugactpbh, hugbpbh

7.3.10 GGSN.Huawei.GPRS.GTP_signal_by_traffic_class

GTP signaling per traffic class (conversational, streaming, interactive and background) on the Gn interface

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
Background_clas	ACCUMULA	INT8	Number of GTP	M134221250.G134	Sum	hugactpb

s_incoming_GTP_signalling_kbytes	TION		signaling kbytes received by the Gn interface, based on background traffic class	707512		h, hugbpbh
Background_class_incoming_GTP_signalling_packets	ACCUMULATION	INT8	Number of GTP signaling packets received by the Gn interface, based on background traffic class	M134221250.G134707504	Sum	hugactpbh, hugbpbh
Background_class_outgoing_GTP_signalling_kbytes	ACCUMULATION	INT8	Number of GTP signaling kbytes sent by the Gn interface, based on background traffic class	M134221250.G134707516	Sum	hugactpbh, hugbpbh
Background_class_outgoing_GTP_signalling_packets	ACCUMULATION	INT8	Number of GTP signaling packets sent by the Gn interface, based on background traffic class	M134221250.G134707508	Sum	hugactpbh, hugbpbh
Conversational_class_incoming_GTP_signalling_kbytes	ACCUMULATION	INT8	Number of GTP signaling kbytes received by the Gn interface, based on conversational traffic class	M134221250.G134707509	Sum	hugactpbh, hugbpbh
Conversational_class_incoming_GTP_signalling_packets	ACCUMULATION	INT8	Number of GTP signaling packets received by the Gn interface, based	M134221250.G134707501	Sum	hugactpbh, hugbpbh

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			on conversational traffic class			
Conversational_class_outgoing_GTP_signalling_kbytes	ACCUMULATION	INT8	Number of GTP signaling kbytes sent by the Gn interface, based on conversational traffic class	M134221250.G134707513	Sum	hugactpbh, hugbpbh
Conversational_class_outgoing_GTP_signalling_packets	ACCUMULATION	INT8	Number of GTP signaling packets sent by the Gn interface, based on conversational traffic class	M134221250.G134707505	Sum	hugactpbh, hugbpbh
Interactive_class_incoming_GTP_signalling_kbytes	ACCUMULATION	INT8	Number of GTP signaling kbytes received by the Gn interface, based on interactive traffic class	M134221250.G134707511	Sum	hugactpbh, hugbpbh
Interactive_class_incoming_GTP_signalling_packets	ACCUMULATION	INT8	Number of GTP signaling packets received by the Gn interface, based on interactive traffic class	M134221250.G134707503	Sum	hugactpbh, hugbpbh
Interactive_class_outgoing_GTP_signalling_kbytes	ACCUMULATION	INT8	Number of GTP signaling kbytes sent by the Gn interface, based on interactive traffic class	M134221250.G134707515	Sum	hugactpbh, hugbpbh
Interactive_class_outgoing_GTP_signalling_packets	ACCUMULATION	INT8	Number of GTP signaling packets sent by the Gn interface, based on	M134221250.G134707507	Sum	hugactpbh, hugbpbh

			interactive traffic class			
Streaming_class_incoming_GTP_signalling_kbytes	ACCUMULATION	INT8	Number of GTP signaling kbytes received by the Gn interface, based on streaming traffic class	M134221250.G134707510	Sum	hugactpbh, hugbpbh
Streaming_class_incoming_GTP_signalling_packets	ACCUMULATION	INT8	Number of GTP signaling packets received by the Gn interface, based on streaming traffic class	M134221250.G134707502	Sum	hugactpbh, hugbpbh
Streaming_class_outgoing_GTP_signalling_kbytes	ACCUMULATION	INT8	Number of GTP signaling kbytes sent by the Gn interface, based on streaming traffic class	M134221250.G134707514	Sum	hugactpbh, hugbpbh
Streaming_class_outgoing_GTP_signalling_packets	ACCUMULATION	INT8	Number of GTP signaling packets sent by the Gn interface, based on streaming traffic class	M134221250.G134707506	Sum	hugactpbh, hugbpbh

7.3.11 GGSN.Huawei.GPRS.GTPP

GTPP performance measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators

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Bytes_of_CDRs_sent_to_CG	ACCUMULATION	INT8	Perform the statistics about the total bytes of the bills for sending to CG	M134221231.G134686885	Sum	hugactpbh, hugbpbh
CG_communication_fault	ACCUMULATION	INTEGER	Perform the statistics about broken times when CG communication is broken	M134221231.G134686882	Sum	hugactpbh, hugbpbh
CG_redirection_fault	ACCUMULATION	INTEGER	Perform the statistics about the failed times of CG redirection	M134221231.G134686883	Sum	hugactpbh, hugbpbh
CG_sent_redirection_message_to_GGSN	ACCUMULATION	INTEGER	Perform the statistics about times for sending redirection message from CG to GGSN	M134221231.G134686884	Sum	hugactpbh, hugbpbh
Illegal_GTPP_received_from_CG	ACCUMULATION	INTEGER	Perform the statistics about illegal GTP signaling packets received by GGSN	M134221231.G134686881	Sum	hugactpbh, hugbpbh
Num_of_CDRs_sent_to_CG	ACCUMULATION	INTEGER	Perform the statistics about the total numbers of bills for sending to CG	M134221231.G134686886	Sum	hugactpbh, hugbpbh

7.3.12 GGSN.Huawei.GPRS.Gx_interface_performance_GGSN

Gx interface performance on GGSN

KPI	Type	Data	Description	Derivation	Default	Other

		Type			Aggregator	Aggregators
PCC_Received_ASR_Messages	ACCUMULATION	INTEGER	PCC Received ASR Messages (APN)	M134221264_GGSN.G134709311 or M134221265_GGSN.G134709311	Sum	hugactpbh, hugbpbh
PCC_Received_CCAI_Messages	ACCUMULATION	INTEGER	PCC Received CCA-I Messages (APN)	M134221264_GGSN.G134709304 or M134221265_GGSN.G134709304	Sum	hugactpbh, hugbpbh
PCC_Received_CCAT_Message	ACCUMULATION	INTEGER	PCC Received CCA-T Message (APN)	M134221264_GGSN.G134709308 or M134221265_GGSN.G134709308	Sum	hugactpbh, hugbpbh
PCC_Received_CCAU_Messages	ACCUMULATION	INTEGER	PCC Received CCA-U Messages (APN)	M134221264_GGSN.G134709306 or M134221265_GGSN.G134709306	Sum	hugactpbh, hugbpbh
PCC_Received_Messages	ACCUMULATION	INTEGER	PCC Received Messages (APN)	M134221264_GGSN.G134709302 or M134221265_GGSN.G134709302	Sum	hugactpbh, hugbpbh
PCC_Received_RAR_Messages	ACCUMULATION	INTEGER	PCC Received RAR Messages (APN)	M134221264_GGSN.G134709309 or M134221265_GGSN.G134709309	Sum	hugactpbh, hugbpbh
PCC_Sent_ASA_Messages	ACCUMULATION	INTEGER	PCC Sent ASA Messages (APN)	M134221264_GGSN.G134709312 or M134221265_GGSN.G134709312	Sum	hugactpbh, hugbpbh
PCC_Sent_CCRI_Messages	ACCUMULATION	INTEGER	PCC Sent CCR-I Messages (APN)	M134221264_GGSN.G134709303 or M134221265_GGSN.G134709303	Sum	hugactpbh, hugbpbh
PCC_Sent_CC	ACCUMULA	INTEG	PCC Sent	M134221264_GGSN	Sum	hugactpb

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RT_Messages	TION	ER	CCR-T Messages (APN)	.G134709307 or M134221265_GGSN .G134709307		h, hugbpbh
PCC_Sent_CCRU_Messages	ACCUMULATION	INTEGER	PCC Sent CCR-U Messages (APN)	M134221264_GGSN .G134709305 or M134221265_GGSN .G134709305	Sum	hugactpbh, hugbpbh
PCC_Sent_Messages	ACCUMULATION	INTEGER	PCC Sent Messages (APN)	M134221264_GGSN .G134709301 or M134221265_GGSN .G134709301	Sum	hugactpbh, hugbpbh
PCC_Sent_RAA_Messages	ACCUMULATION	INTEGER	PCC Sent RAA Messages (APN)	M134221264_GGSN .G134709310 or M134221265_GGSN .G134709310	Sum	hugactpbh, hugbpbh

7.3.13 GGSN.Huawei.GPRS.Gy_interface

Gy interface traffic

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
Gy_average_packets_throughput	INTENSITY	FLOAT	Gy average packets throughput	M134221255.G134708203	Average	hugactpbh, hugbpbh, Maximum, Minimum, Sum
Gy_downlink_Kbytes	ACCUMULATION	INT8	Obsolete from GGSN/V800R006 C01B010:Gy downlink Mbytes	M134221255.G134708206	Sum	hugactpbh, hugbpbh
Gy_downlink_packets	ACCUMULATION	INT8	Gy downlink packets	M134221255.G134708207	Sum	hugactpbh, hugbpbh
Gy_peak_packets_throughput	INTENSITY	FLOAT	Gy peak packets	M134221255.G134708202	Average	hugactpbh,

			throughput			hugbpbh, Maximum, Minimum, Sum
Gy_peak_throughput	INTENSITY	FLOAT	Obsolete from GGSN/V800R006 C01B010:Gy peak throughput	M134221255.G134708201	Average	hugactpbh, hugbpbh, Maximum, Minimum, Sum
Gy_total_packets	ACCUMULATION	INTEGER	Gy total packets	M134221255.G134708208	Sum	hugactpbh, hugbpbh
Gy_uplink_Kbytes	ACCUMULATION	INT8	Obsolete from GGSN/V800R006 C01B010:Gy uplink Mbytes	M134221255.G134708204	Sum	hugactpbh, hugbpbh
Gy_uplink_packets	ACCUMULATION	INT8	Gy uplink packets	M134221255.G134708205	Sum	hugactpbh, hugbpbh

7.3.14 GGSN.Huawei.GPRS.IMS_basic_session

IMS basis session

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
GGSN_receive_authorization_decision	ACCUMULATION	INTEGER	Obsolete from GGSN/V800R006 C01B010:Times of GGSN receive	M134221253.G134708008	Sum	hugactpbh, hugbpbh

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			authorization decision			
GGSN_receive_gate_decision	ACCUMULATION	INTEGER	Obsolete from GGSN/V800R006 C01B010:Times of GGSN receive gate decision	M134221253.G134708009	Sum	hugactpbh, hugbpbh
GGSN_receive_global_PDP_SSQ	ACCUMULATION	INTEGER	Obsolete from GGSN/V800R006 C01B010:Times of GGSN receive global PDP SSQ	M134221253.G134708013	Sum	hugactpbh, hugbpbh
GGSN_receive_remove_decision	ACCUMULATION	INTEGER	Obsolete from GGSN/V800R006 C01B010:Times of GGSN receive remove decision	M134221253.G134708010	Sum	hugactpbh, hugbpbh
GGSN_receive_single_PDP_SSQ	ACCUMULATION	INTEGER	Obsolete from GGSN/V800R006 C01B010:Times of GGSN receive single PDP SSQ	M134221253.G134708012	Sum	hugactpbh, hugbpbh
GGSN_receive	ACCUMULATION	INTEGER	Obsolete from GGSN/V800R006 C01B010:Times of GGSN receive initialize capability decision	M134221253.G134708011	Sum	hugactpbh, hugbpbh
GGSN_start_authorization_REQ	ACCUMULATION	INTEGER	Obsolete from GGSN/V800R006	M134221253.G134708002	Sum	hugactpbh, hugbpbh

			C01B010:Number of GGSN start authorization REQ			
GGSN_start_DRQ	ACCUMULATION	INTEGER	Obsolete from GGSN/V800R006 C01B010:Number of GGSN start DRQs	M134221253.G134708006	Sum	hugactpbh, hugbpbh
GGSN_start_failed_report	ACCUMULATION	INTEGER	Obsolete from GGSN/V800R006 C01B010:Number of GGSN start failed reports	M134221253.G134708004	Sum	hugactpbh, hugbpbh
GGSN_start_initialize_capability_REQ	ACCUMULATION	INTEGER	Obsolete from GGSN/V800R006 C01B010:Number of GGSN start initialize capability REQ	M134221253.G134708001	Sum	hugactpbh, hugbpbh
GGSN_start_SSC	ACCUMULATION	INTEGER	Obsolete from GGSN/V800R006 C01B010:Number of GGSN start SSCs	M134221253.G134708007	Sum	hugactpbh, hugbpbh
GGSN_start_success_report	ACCUMULATION	INTEGER	Obsolete from GGSN/V800R006 C01B010:Number of GGSN start success report	M134221253.G134708003	Sum	hugactpbh, hugbpbh

GGSN_start_usage_report	ACCUMULATION	INTEGER	Obsolete from GGSN/V800R006 C01B010:Number of GGSN start usage reports	M134221253.G134708005	Sum	hugactpbh, hugbpbh

7.3.15 GGSN.Huawei.GPRS.Intelligent_service

**Obsolete in GGSN/V800R006 C02. Intelligent service performance measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
_%_Intelligent_PDP_act_successes	PERCENTAGE	FLOAT	Obsolete from GGSN/V800R006 C01B010:Percentage of successful Continue messages sent to the GTPC by the SSF	100 * {Intelligent_PDP_act_successes}/ {Intelligent_PDP_act_requests}	Average	hugactpbh, hugbpbh
_%_PDP_deact_successes_initiated_GGSN	PERCENTAGE	FLOAT	Obsolete from GGSN/V800R006 C01B010:Percentage of successful GGSN-initiated intelligent user PDP deactivation	100 * {PDP_deact_successes_initiated_GGSN}/ {PDP_deact_requests_initiated_GGSN}	Average	hugactpbh, hugbpbh
_%_PDP_deact_successes_initiated_SCP	PERCENTAGE	FLOAT	Obsolete from GGSN/V800R006 C01B010:Percentage of successful SCP-initiated intelligent user	100 * {PDP_deact_successes_initiated_SCP}/ {PDP_deact_requests_initiated_SCP}	Average	hugactpbh, hugbpbh

			PDP deactivation			
Avg_act_IN_PDP_contexts	INTENSITY	FLOAT	Obsolete from GGSN/V800R006 C01B010:Average intelligent PDP contexts activated by GGSN	M134221242.G134687287	Average	hugactpbh, hugbpbh, Maximum, Minimum, Sum
IN_service_failures_arised_gprsSSF	ACCUMULATION	INTEGER	Obsolete from GGSN/V800R006 C01B010:Failed times of intelligent service caused by gprsSSF	M134221242.G134687288	Sum	hugactpbh, hugbpbh
IN_service_failures_arised_SCP	ACCUMULATION	INTEGER	Obsolete from GGSN/V800R006 C01B010:Failed times of intelligent service caused by SCP	M134221242.G134687289	Sum	hugactpbh, hugbpbh
Intelligent_PDP_act_requests	ACCUMULATION	INTEGER	Obsolete from GGSN/V800R006 C01B010:The number of Invoke_SSF messages sent to the SSF by the GTPC	M134221242.G134687281	Sum	hugactpbh, hugbpbh
Intelligent_PDP_act_successes	ACCUMULATION	INTEGER	Obsolete from GGSN/V800R006	M134221242.G134687282	Sum	hugactpbh, hugbpbh

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			C01B010:The number of Continue messages sent to the GTPC by the SSF			
PDP_deact_requests_initiated_GGSN	ACCUMULATION	INTEGER	Obsolete from GGSN/V800R006 C01B010:Requests of GGSN-initiated intelligent user PDP deactivation	M134221242.G134687283	Sum	hugactpbh, hugbpbh
PDP_deact_requests_initiated_SCP	ACCUMULATION	INTEGER	Obsolete from GGSN/V800R006 C01B010:Requests of SCP-initiated intelligent user PDP deactivation	M134221242.G134687285	Sum	hugactpbh, hugbpbh
PDP_deact_successes_initiated_GGSN	ACCUMULATION	INTEGER	Obsolete from GGSN/V800R006 C01B010:Successful times of GGSN-initiated intelligent user PDP deactivation	M134221242.G134687284	Sum	hugactpbh, hugbpbh
PDP_deact_successes_initiated_SCP	ACCUMULATION	INTEGER	Obsolete from GGSN/V800R006 C01B010:Successful times of SCP-initiated intelligent user PDP deactivation	M134221242.G134687286	Sum	hugactpbh, hugbpbh

7.3.16 GGSN.Huawei.GPRS.IP_data_by_traffic_class

IP data per traffic class (conversational, streaming, interactive and background) on the Gi interface

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
Background_class_incoming_IP_data_Kbytes	ACCUMULATION	INT8	Number of IP data kbytes received by the Gi interface, based on background traffic class	M134221250.G134707544	Sum	hugactpbh, hugbpbh
Background_class_incoming_IP_data_Packets	ACCUMULATION	INT8	Number of IP data packets received by the Gi interface, based on background traffic class	M134221250.G134707536	Sum	hugactpbh, hugbpbh
Background_class_outgoing_IP_data_Kbytes	ACCUMULATION	INT8	Number of IP data kbytes sent by the Gi interface, based on background traffic class	M134221250.G134707548	Sum	hugactpbh, hugbpbh
Background_class_outgoing_IP_data_Packets	ACCUMULATION	INT8	Number of IP data packets sent by the Gi interface, based on background traffic class	M134221250.G134707540	Sum	hugactpbh, hugbpbh
Conversational_class_incoming_IP_data_Kbytes	ACCUMULATION	INT8	Number of IP data kbytes received by the Gi interface,	M134221250.G134707541	Sum	hugactpbh, hugbpbh

			based on conversational traffic class			
Conversational_class_incoming_IP_data_Packets	ACCUMULATION	INT8	Number of IP data packets received by the Gi interface, based on conversational traffic class	M134221250.G134707533	Sum	hugactpbh, hugbpbh
Conversational_class_outgoing_IP_data_Kbytes	ACCUMULATION	INT8	Number of IP data kbytes sent by the Gi interface, based on conversational traffic class	M134221250.G134707545	Sum	hugactpbh, hugbpbh
Conversational_class_outgoing_IP_data_Packets	ACCUMULATION	INT8	Number of IP data packets sent by the Gi interface, based on conversational traffic class	M134221250.G134707537	Sum	hugactpbh, hugbpbh
Interactive_class_incoming_IP_data_Kbytes	ACCUMULATION	INT8	Number of IP data kbytes received by the Gi interface, based on interactive traffic class	M134221250.G134707543	Sum	hugactpbh, hugbpbh
Interactive_class_incoming_IP_data_Packets	ACCUMULATION	INT8	Number of IP data packets received by the Gi interface, based on interactive traffic class	M134221250.G134707535	Sum	hugactpbh, hugbpbh
Interactive_class_outgoing_IP_data_Kbytes	ACCUMULATION	INT8	Number of IP data kbytes sent by the Gi interface, based	M134221250.G134707547	Sum	hugactpbh, hugbpbh

			on interactive traffic class			
Interactive_class_outgoing_IP_data_Packets	ACCUMULATION	INT8	Number of IP data packets sent by the Gi interface, based on interactive traffic class	M134221250.G134707539	Sum	hugactpbh, hugbpbh
Streaming_class_incoming_IP_data_Kbytes	ACCUMULATION	INT8	Number of IP data kbytes received by the Gi interface, based on streaming traffic class	M134221250.G134707542	Sum	hugactpbh, hugbpbh
Streaming_class_incoming_IP_data_Packets	ACCUMULATION	INT8	Number of IP data packets received by the Gi interface, based on streaming traffic class	M134221250.G134707534	Sum	hugactpbh, hugbpbh
Streaming_class_outgoing_IP_data_Kbytes	ACCUMULATION	INT8	Number of IP data kbytes sent by the Gi interface, based on streaming traffic class	M134221250.G134707546	Sum	hugactpbh, hugbpbh
Streaming_class_outgoing_IP_data_Packets	ACCUMULATION	INT8	Number of IP data packets sent by the Gi interface, based on streaming traffic class	M134221250.G134707538	Sum	hugactpbh, hugbpbh

7.3.17 GGSN.Huawei.GPRS.IPV6_transport

IPV6 transport measurement

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KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
IPv6_Gi_DL_byte_peak_throughput	INTENSITY	INTEGER	Peak IPV6 Gi downlink byte forwarding rate during a period.	M134221229.G134710209	Average	hugactpbh, hugbpbh, Sum, Minimum, Maximum
IPv6_Gi_DL_pkts_peak_throughput	INTENSITY	INTEGER	Peak IPV6 Gi downlink packet forwarding rate during a period.	M134221229.G134710211	Average	hugactpbh, hugbpbh, Sum, Minimum, Maximum
IPv6_Gi_downlink_traffic_in_packets	ACCUMULATION	INTEGER	Downlink forwarding packets on IPV6 Gi interface in the statistical period.	M134221229.G134710215	Sum	hugactpbh, hugbpbh
IPv6_Gi_downlink_traffic	ACCUMULATION	INTEGER	Downlink forwarding byte on IPV6 Gi interface in the statistical period.	M134221229.G134710213	Sum	hugactpbh, hugbpbh
IPv6_Gi_UL_byte_peak_throughput	INTENSITY	INTEGER	Peak IPV6 Gi uplink byte forwarding rate during a period.	M134221229.G134710208	Average	hugactpbh, hugbpbh, Sum, Minimum, Maximum
IPv6_Gi_UL_pkts_peak_throu	INTENSITY	INTEGER	Peak IPV6 Gi uplink packet	M134221229.G134710210	Average	hugactpbh,

ghput			forwarding rate during a period.			hugbpbh, Sum, Minimum, Maximum
IPv6_Gi_uplink_traffic_in_packets	ACCUMULATION	INTEGER	Uplink forwarding packets on IPV6 Gi interface in the statistical period.	M134221229.G134710214	Sum	hugactpbh, hugbpbh
IPv6_Gi_uplink_traffic	ACCUMULATION	INTEGER	Uplink forwarding byte on IPV6 Gi interface in the statistical period.	M134221229.G134710212	Sum	hugactpbh, hugbpbh
IPv6_Gn_DL_byte_peak_throughput	INTENSITY	INTEGER	Peak IPV6 Gn downlink byte forwarding rate during a period.	M134221229.G134710201	Average	hugactpbh, hugbpbh, Sum, Minimum, Maximum
IPv6_Gn_DL_pkts_peak_throughput	INTENSITY	INTEGER	Peak IPV6 Gn downlink packet forwarding rate during a period.	M134221229.G134710203	Average	hugactpbh, hugbpbh, Sum, Minimum, Maximum
IPv6_Gn_downlink_traffic_in_packets	ACCUMULATION	INTEGER	Downlink forwarding packets on	M134221229.G134710207	Sum	hugactpbh, hugbpbh

			IPV6 Gn interface in the statistical period.			
IPv6_Gn_downlink_traffic	ACCUMULATION	INTEGER	Downlink forwarding byte on IPV6 Gn interface in the statistical period.	M134221229.G134710205	Sum	hugactpbh, hugbpbh
IPv6_Gn_UL_byte_peak_throughput	INTENSITY	INTEGER	Peak IPV6 Gn uplink byte forwarding rate during a period.	M134221229.G134710200	Average	hugactpbh, hugbpbh, Sum, Minimum, Maximum
IPv6_Gn_UL_pkts_peak_throughput	INTENSITY	INTEGER	Peak IPV6 Gn uplink packet forwarding rate during a period.	M134221229.G134710202	Average	hugactpbh, hugbpbh, Sum, Minimum, Maximum
IPv6_Gn_uplink_traffic_in_packets	ACCUMULATION	INTEGER	Uplink forwarding packets on IPV6 Gn interface in the statistical period.	M134221229.G134710206	Sum	hugactpbh, hugbpbh
IPv6_Gn_uplink_traffic	ACCUMULATION	INTEGER	Uplink forwarding byte on IPV6 Gn interface in the statistical period.	M134221229.G134710204	Sum	hugactpbh, hugbpbh
One_Tunnel_downlink_traffic	ACCUMULATION	INTEGER	One Tunnel downlink traffic in KB	M134221229.G134686753	Sum	hugactpbh, hugbpbh

One_Tunnel_uplink_traffic	ACCUMULATION	INTEGER	One Tunnel uplink traffic in KB	M134221229.G134686752	Sum	hugactpbh, hugbpbh
Received_gtp_ip_fragment_flows	ACCUMULATION	INTEGER	Received gtp ip fragment flows	M134221229.G134686751	Sum	hugactpbh, hugbpbh
Received_user_ip_fragment_flows	ACCUMULATION	INTEGER	Received user ip fragment flows	M134221229.G134686750	Sum	hugactpbh, hugbpbh

7.3.18 GGSN.Huawei.GPRS.L2TP

L2TP performance measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
_%_L2TP_session_setup_successes	PERCENTAGE	FLOAT	Percentage of successful establishing an L2TP session between the GGSN and the LNS	100 * {L2TP_session_setup_successes}/ {L2TP_session_setup_attempts}	Average	hugactpbh, hugbpbh
_%_L2TP_tunnel_setup_successes	PERCENTAGE	FLOAT	Percentage of successful establishing an L2TP tunnel between the GGSN and the LNS	100 * {L2TP_tunnel_setup_successes}/ {L2TP_tunnel_setup_attempts}	Average	hugactpbh, hugbpbh
Current_act_L2TP_sessions	INTENSITY	FLOAT	Current act L2TP sessions	M134221241.G134800000	Average	hugactpbh, hugbpbh, Maximum, Minimu

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						m, Sum
Current_act_L2TP_tunnels	INTENSITY	FLOAT	Current act L2TP tunnels	M134221241.G134800003	Average	hugactpbh, hugbpbh, Maximum, Minimum, Sum
L2TP_session_setup_attempts	ACCUMULATION	INTEGER	Attempts of establishing an L2TP session between the GGSN and the LNS	M134221241.G134687186	Sum	hugactpbh, hugbpbh
L2TP_session_setup_successes	ACCUMULATION	INTEGER	Successful times of establishing an L2TP session between the GGSN and the LNS	M134221241.G134687187	Sum	hugactpbh, hugbpbh
L2TP_tunnel_setup_attempts	ACCUMULATION	INTEGER	Attempts of establishing an L2TP tunnel between the GGSN and the LNS	M134221241.G134687184	Sum	hugactpbh, hugbpbh
L2TP_tunnel_setup_successes	ACCUMULATION	INTEGER	Successful times of establishing an L2TP tunnel between the GGSN and the LNS	M134221241.G134687185	Sum	hugactpbh, hugbpbh
Maximum_L2TP_sessions	INTENSITY	FLOAT	Maximum L2TP sessions	M134221241.G134800001	Average	hugactpbh, hugbpbh, Maximum, Minimum, Sum

Received_invalid_L2TP_control_pckts	ACCUMULATION	INTEGER	The number of invalid L2TP control packets sent to the GGSN by the LNS	M134221241.G134687182	Sum	hugactpbh, hugbpbh
Received_L2TP_control_packets	ACCUMULATION	INTEGER	The number of L2TP control packets sent to the GGSN by the LNS	M134221241.G134687181	Sum	hugactpbh, hugbpbh
Succ_L2TP_session_deactivations	ACCUMULATION	INTEGER	Successful L2TP session deactivations	M134221241.G134800002	Sum	hugactpbh, hugbpbh
Succ_L2TP_session_setups_APN	ACCUMULATION	INTEGER	Successful L2TP session setups(APN)	M134221241.G134800100	Sum	hugactpbh, hugbpbh
Transmitted_L2TP_control_packets	ACCUMULATION	INTEGER	The number of L2TP control packets sent to the LNS by the GGSN	M134221241.G134687183	Sum	hugactpbh, hugbpbh

7.3.19 GGSN.Huawei.GPRS.Layer7_parser

Layer 7 parser for packet and Mbyte traffic

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
L7_parser_average_packet_throughput	INTENSITY	FLOAT	L7 parser average packet throughput	M134221254.G134708103	Average	hugactpbh, hugbpbh, Maximum, Minimum, Sum

L7_parser_DNS_downlink_Kbytes	ACCUMULATION	INT8	L7 parser DNS downlink Kbytes	M134221254.G134708137	Sum	hugactpbh, hugbpbh
L7_parser_DNS_downlink_packets	ACCUMULATION	INTEGER	L7 parser DNS downlink packets.	M134221254.G134708135	Sum	hugactpbh, hugbpbh
L7_parser_DNS_uplink_Kbytes	ACCUMULATION	INT8	L7 parser DNS uplink Kbytes	M134221254.G134708136	Sum	hugactpbh, hugbpbh
L7_parser_DNS_uplink_packets	ACCUMULATION	INTEGER	L7 parser DNS uplink packets.	M134221254.G134708134	Sum	hugactpbh, hugbpbh
L7_parser_downlink_Kbytes	ACCUMULATION	INT8	L7 parser downlink Mbytes	M134221254.G134708106	Sum	hugactpbh, hugbpbh
L7_parser_downlink_packets	ACCUMULATION	INT8	L7 parser downlink packets	M134221254.G134708107	Sum	hugactpbh, hugbpbh
L7_parser_FTP_downlink_Kbytes	ACCUMULATION	INT8	L7 parser FTP downlink Mbytes	M134221254.G134708129	Sum	hugactpbh, hugbpbh
L7_parser_FTP_downlink_packets	ACCUMULATION	INT8	L7 parser FTP downlink packets	M134221254.G134708127	Sum	hugactpbh, hugbpbh
L7_parser_FTP_uplink_Kbytes	ACCUMULATION	INT8	L7 parser FTP uplink Mbytes	M134221254.G134708128	Sum	hugactpbh, hugbpbh
L7_parser_FTP_uplink_packets	ACCUMULATION	INT8	L7 parser FTP uplink packets	M134221254.G134708126	Sum	hugactpbh, hugbpbh
L7_parser_HTTP_downlink_Kbytes	ACCUMULATION	INT8	L7 parser HTTP downlink Mbytes	M134221254.G134708113	Sum	hugactpbh, hugbpbh
L7_parser_HTTP_Downlink_packets	ACCUMULATION	INT8	L7 parser HTTP downlink packets	M134221254.G134708111	Sum	hugactpbh, hugbpbh

L7_parser_HTTP_uplink_Kbytes	ACCUMULATION	INT8	L7 parser HTTP uplink Mbytes	M134221254.G134708112	Sum	hugactpbh, hugbpbh
L7_parser_HTTP_uplink_packets	ACCUMULATION	INT8	L7 parser HTTP uplink packets	M134221254.G134708110	Sum	hugactpbh, hugbpbh
L7_parser_IM_downlink_Kbytes	ACCUMULATION	INT8	L7 parser IM downlink Kbytes	M134221254.G134708169	Sum	hugactpbh, hugbpbh
L7_parser_IM_downlink_packets	ACCUMULATION	INTEGER	L7 parser IM downlink packets.	M134221254.G134708167	Sum	hugactpbh, hugbpbh
L7_parser_IM_uplink_Kbytes	ACCUMULATION	INT8	L7 parser IM uplink Kbytes	M134221254.G134708168	Sum	hugactpbh, hugbpbh
L7_parser_IM_uplink_packets	ACCUMULATION	INTEGER	L7 parser IM uplink packets.	M134221254.G134708166	Sum	hugactpbh, hugbpbh
L7_parser_IMAP_downlink_Kbytes	ACCUMULATION	INT8	L7 parser IMAP downlink Kbytes	M134221254.G134708149	Sum	hugactpbh, hugbpbh
L7_parser_IMAP_downlink_packets	ACCUMULATION	INTEGER	L7 parser IMAP downlink packets.	M134221254.G134708147	Sum	hugactpbh, hugbpbh
L7_parser_IMAP_uplink_Kbytes	ACCUMULATION	INT8	L7 parser IMAP uplink Kbytes	M134221254.G134708148	Sum	hugactpbh, hugbpbh
L7_parser_IMAP_uplink_packets	ACCUMULATION	INTEGER	L7 parser IMAP uplink packets.	M134221254.G134708146	Sum	hugactpbh, hugbpbh
L7_parser_MMSP_downlink_Kbytes	ACCUMULATION	INT8	L7 parser MMSP downlink	M134221254.G134708157	Sum	hugactpbh, hugbpbh

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			Kbytes			
L7_parser_MMSP_downlink_packets	ACCUMULATION	INTEGER	L7 parser MMSP downlink packets.	M134221254.G134708155	Sum	hugactpbh, hugbpbh
L7_parser_MMSP_uplink_Kbytes	ACCUMULATION	INT8	L7 parser MMSP uplink Kbytes	M134221254.G134708156	Sum	hugactpbh, hugbpbh
L7_parser_MMSP_uplink_packets	ACCUMULATION	INTEGER	L7 parser MMSP uplink packets.	M134221254.G134708154	Sum	hugactpbh, hugbpbh
L7_parser_P2P_downlink_Kbytes	ACCUMULATION	INT8	Total downlink P2P traffic received by Layer 7 Parser.	M134221254.G134708161	Sum	hugactpbh, hugbpbh
L7_parser_P2P_downlink_packets	ACCUMULATION	INTEGER	L7 parser P2P downlink packets.	M134221254.G134708159	Sum	hugactpbh, hugbpbh
L7_parser_P2P_uplink_Kbytes	ACCUMULATION	INT8	Total uplink P2P traffic received by Layer 7 Parser.	M134221254.G134708160	Sum	hugactpbh, hugbpbh
L7_parser_P2P_uplink_packets	ACCUMULATION	INTEGER	L7 parser P2P uplink packets.	M134221254.G134708158	Sum	hugactpbh, hugbpbh
L7_parser_peak_packet_throughput	INTENSITY	FLOAT	L7 parser peak packet throughput	M134221254.G134708102	Average	hugactpbh, hugbpbh, Maximum, Minimum, Sum
L7_parser_peak_throughput	INTENSITY	FLOAT	L7 parser peak throughput	M134221254.G134708101	Average	hugactpbh, hugbpbh, Maximum, Minimum, Sum
L7_parser_PO	ACCUMULA	INT8	L7 parser POP3	M134221254.G134	Sum	hugactpb

P3_downlink_Kbytes	TION		downlink Kbytes	708145		h, hugbpbh
L7_parser_POP3_downlink_packets	ACCUMULATION	INTEGER	L7 parser POP3 downlink packets.	M134221254.G134708143	Sum	hugactpbh, hugbpbh
L7_parser_POP3_uplink_Kbytes	ACCUMULATION	INT8	L7 parser POP3 uplink Kbytes	M134221254.G134708144	Sum	hugactpbh, hugbpbh
L7_parser_POP3_uplink_packets	ACCUMULATION	INTEGER	L7 parser POP3 uplink packets.	M134221254.G134708142	Sum	hugactpbh, hugbpbh
L7_parser_RTSP_downlink_Kbytes	ACCUMULATION	INT8	L7 parser RTSP downlink Mbytes	M134221254.G134708125	Sum	hugactpbh, hugbpbh
L7_parser_RTSP_downlink_packets	ACCUMULATION	INT8	L7 parser RTSP downlink packets	M134221254.G134708123	Sum	hugactpbh, hugbpbh
L7_parser_RTSP_uplink_Kbytes	ACCUMULATION	INT8	L7 parser RTSP uplink Mbytes	M134221254.G134708124	Sum	hugactpbh, hugbpbh
L7_parser_RTSP_uplink_packets	ACCUMULATION	INT8	L7 parser RTSP uplink packets	M134221254.G134708122	Sum	hugactpbh, hugbpbh
L7_parser_SMTP_downlink_Kbytes	ACCUMULATION	INT8	L7 parser SMTP downlink Kbytes	M134221254.G134708141	Sum	hugactpbh, hugbpbh
L7_parser_SMTP_downlink_packets	ACCUMULATION	INTEGER	L7 parser SMTP downlink packets.	M134221254.G134708139	Sum	hugactpbh, hugbpbh
L7_parser_SMTP_uplink_Kbytes	ACCUMULATION	INT8	L7 parser SMTP uplink Kbytes	M134221254.G134708140	Sum	hugactpbh, hugbpbh

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L7_parser_SMTP_uplink_packets	ACCUMULATION	INTEGER	L7 parser SMTP uplink packets.	M134221254.G134708138	Sum	hugactpbh, hugbpbh
L7_parser_success_transmit_packets	ACCUMULATION	INTEGER	L7 parser success transmit packets.	M134221254.G134708131	Sum	hugactpbh, hugbpbh
L7_parser_TFTP_downlink_Kbytes	ACCUMULATION	INT8	L7 parser TFTP downlink Kbytes	M134221254.G134708153	Sum	hugactpbh, hugbpbh
L7_parser_TFTP_downlink_packets	ACCUMULATION	INTEGER	L7 parser TFTP downlink packets.	M134221254.G134708151	Sum	hugactpbh, hugbpbh
L7_parser_TFTP_uplink_Kbytes	ACCUMULATION	INT8	L7 parser TFTP uplink Kbytes	M134221254.G134708152	Sum	hugactpbh, hugbpbh
L7_parser_TFTP_uplink_packets	ACCUMULATION	INTEGER	L7 parser TFTP uplink packets.	M134221254.G134708150	Sum	hugactpbh, hugbpbh
L7_parser_total_Kbytes	ACCUMULATION	INTEGER	L7 parser total Kbytes.	M134221254.G134708132	Sum	hugactpbh, hugbpbh
L7_parser_total_packets	ACCUMULATION	INTEGER	L7 parser total packets.	M134221254.G134708133	Sum	hugactpbh, hugbpbh
L7_parser_transmit_packets	ACCUMULATION	INTEGER	L7 parser transmit packets.	M134221254.G134708130	Sum	hugactpbh, hugbpbh
L7_parser_transmit_success_ratio	INTENSITY	FLOAT	L7 parser transmit success ratio	M134221254.G134708109	Average	hugactpbh, hugbpbh, Maximum, Minimum, Sum
L7_parser_uplink_error_packets	ACCUMULATION	INT8	L7 parser uplink error packets	M134221254.G134708108	Sum	hugactpbh, hugbpbh
L7_parser_upli	ACCUMULA	INT8	L7 parser	M134221254.G134	Sum	hugactpb

nk_Kbytes	TION		uplink Mbytes	708104		h, hugbpbh
L7_parser_uplink_packets	ACCUMULATION	INT8	L7 parser uplink packets	M134221254.G134708105	Sum	hugactpbh, hugbpbh
L7_parser_VOIP_downlink_Kbytes	ACCUMULATION	INT8	Total downlink VoIP traffic received by Layer 7 parser.	M134221254.G134708165	Sum	hugactpbh, hugbpbh
L7_parser_VOIP_downlink_packets	ACCUMULATION	INTEGER	L7 parser VOIP downlink packets.	M134221254.G134708163	Sum	hugactpbh, hugbpbh
L7_parser_VOIP_uplink_Kbytes	ACCUMULATION	INT8	Total uplink VoIP traffic received by Layer 7 Parser.	M134221254.G134708164	Sum	hugactpbh, hugbpbh
L7_parser_VOIP_uplink_packets	ACCUMULATION	INTEGER	L7 parser VOIP uplink packets.	M134221254.G134708162	Sum	hugactpbh, hugbpbh
L7_parser_WAP1_X_downlink_Kbytes	ACCUMULATION	INT8	L7 parser WAP1.X downlink Mbytes	M134221254.G134708117	Sum	hugactpbh, hugbpbh
L7_parser_WAP1_X_downlink_packets	ACCUMULATION	INT8	L7 parser WAP1.X downlink packets	M134221254.G134708115	Sum	hugactpbh, hugbpbh
L7_parser_WAP1_x_uplink_Kbytes	ACCUMULATION	INT8	L7 parser WAP1.X uplink Mbytes	M134221254.G134708116	Sum	hugactpbh, hugbpbh
L7_parser_WAP1_X_uplink_packets	ACCUMULATION	INT8	L7 parser WAP1.X uplink packets	M134221254.G134708114	Sum	hugactpbh, hugbpbh
L7_parser_WAP2_0_downlink	ACCUMULATION	INT8	L7 parser WAP2.0	M134221254.G134708121	Sum	hugactpbh,

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_Kbytes			downlink Mbytes			hugbpbh
L7_parser_WAP2_0_downlink_packets	ACCUMULATION	INT8	L7 parser WAP2.0 downlink packets	M134221254.G134708119	Sum	hugactpbh, hugbpbh
L7_parser_WAP2_0_uplink_Kbytes	ACCUMULATION	INT8	L7 parser WAP2.0 uplink Mbytes	M134221254.G134708120	Sum	hugactpbh, hugbpbh
L7_parser_WAP2_0_uplink_packets	ACCUMULATION	INT8	L7 parser WAP2.0 uplink packets	M134221254.G134708118	Sum	hugactpbh, hugbpbh
L7_protocol_identify_fail_service_flow_numbers	ACCUMULATION	INTEGER	L7 protocol identify fail service flow numbers	M134221254.G134708171	Sum	hugactpbh, hugbpbh
L7_protocol_identify_success_service_flow_numbers	ACCUMULATION	INTEGER	L7 protocol identify success service flow numbers	M134221254.G134708170	Sum	hugactpbh, hugbpbh

7.3.20 GGSN.Huawei.GPRS.MBMS

MBMS session stop and start from/to BMSC or SGSN

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
Current_MBMS_GTP_connection	ACCUMULATION	INTEGER	Number of current MBMS GTP connection	M134221257.G134708410	Sum	hugactpbh, hugbpbh
Current_MBMS_Session	ACCUMULATION	INTEGER	Number of the current MBMS sessions.	M134221257.G134708409	Sum	hugactpbh, hugbpbh
Gi_downlink_MBMS_traffic	ACCUMULATION	INTEGER	MBMS downlink multicast data packets expressed in kilobytes and	M134221257.G134708411	Sum	hugactpbh, hugbpbh

			received through the Gi interface by the SPU when the system starts to work.			
Gn_downlink_MBMS_traffic	ACCUMULATION	INTEGER	MBMS downlink multicast data packets expressed in kilobytes and received through the Gn interface by the SPU when the system starts to work.	M134221257.G134708412	Sum	hugactpbh, hugbpbh
MBMS_session_start_request_from_BMSC	ACCUMULATION	INTEGER	Number of MBMS session start requests from the BMSC received by the GGSN	M134221257.G134708401	Sum	hugactpbh, hugbpbh
MBMS_session_start_request_to_SGSN	ACCUMULATION	INTEGER	Number of MBMS session start requests to the SGSN sent by the GGSN	M134221257.G134708405	Sum	hugactpbh, hugbpbh
MBMS_session_start_response_from_SGSN	ACCUMULATION	INTEGER	Number of MBMS session start responses from the SGSN received by the GGSN	M134221257.G134708406	Sum	hugactpbh, hugbpbh
MBMS_session_start_response_to_BMSC	ACCUMULATION	INTEGER	Number of MBMS session start responses	M134221257.G134708402	Sum	hugactpbh, hugbpbh

			to the BMSC sent by the GGSN			
MBMS_session_stop_request_from_BMSC	ACCUMULATION	INTEGER	Number of MBMS session stop requests from the BMSC received by the GGSN	M134221257.G134708403	Sum	hugactpbh, hugbpbh
MBMS_session_stop_request_to_SGSN	ACCUMULATION	INTEGER	Number of MBMS session stop requests to the SGSN sent by the GGSN	M134221257.G134708407	Sum	hugactpbh, hugbpbh
MBMS_session_stop_response_from_SGSN	ACCUMULATION	INTEGER	Number of MBMS session stop responses from the BMSC received by the GGSN	M134221257.G134708408	Sum	hugactpbh, hugbpbh
MBMS_session_stop_response_to_BMSC	ACCUMULATION	INTEGER	Number of MBMS session stop responses to the BMSC sent by the GGSN	M134221257.G134708404	Sum	hugactpbh, hugbpbh

7.3.21 GGSN.Huawei.GPRS.MIP_FA

**Obsolete in GGSN/V800R006 C02. MIP FA performance measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
Deny_aaa_authentication_fail	ACCUMULATION	INTEGER	Obsolete from GGSN/V800R006 C01B010:Total number of registration requests that are denied by FA as	M134221245.G134706903	Sum	hugactpbh, hugbpbh

			a result of failed registration authentication to a mobile node			
Deny_admin_prohibit	ACCUMULATION	INTEGER	Obsolete from GGSN/V800R006 C01B010:Total number of registration requests that are denied by FA as a result of prohibition in administration (such as intended configuration or functions not being supported)	M134221245.G134706901	Sum	hugactpbh, hugbpbh
Deny_ha_authentication_fail	ACCUMULATION	INTEGER	Obsolete from GGSN/V800R006 C01B010:Total number of registration replies that are denied by FA as a result of failed authentication by HA	M134221245.G134706911	Sum	hugactpbh, hugbpbh
Deny_ha_reply_poor_form	ACCUMULATION	INTEGER	Obsolete from GGSN/V800R006 C01B010:Total number of registration	M134221245.G134706912	Sum	hugactpbh, hugbpbh

			replies that are denied by FA as a result of wrong format of a registration reply			
Deny_ha_unreachable	ACCUMULATION	INTEGER	Obsolete from GGSN/V800R006 C01B010:Total number of registration requests that are denied by FA as a result of unreachable HA	M134221245.G134706908	Sum	hugactpbh, hugbpbh
Deny_lifetime_too_long	ACCUMULATION	INTEGER	Obsolete from GGSN/V800R006 C01B010:Total number of registration requests that are denied by FA as a result of the registration lifetime solicited by a mobile node being too long	M134221245.G134706904	Sum	hugactpbh, hugbpbh
Deny_poor_form	ACCUMULATION	INTEGER	Obsolete from GGSN/V800R006 C01B010:Total number of registration requests that are denied by FA as a result of wrong format of a registration request	M134221245.G134706905	Sum	hugactpbh, hugbpbh
Deny_poor_reso	ACCUMULA	INTEG	Obsolete from	M134221245.G13	Sum	hugactpb

urce	TION	ER	GGSN/V800R006 C01B010:Total number of registration requests that are denied by FA as a result of insufficient resource	4706902		h, hugbpbh
Deny_unknow	ACCUMULATION	INTEGER	Obsolete from GGSN/V800R006 C01B010:Total number of registration requests that are denied by FA for unknown reasons	M134221245.G134706900	Sum	hugactpbh, hugbpbh
Deny_unsupport_encapsulation	ACCUMULATION	INTEGER	Obsolete from GGSN/V800R006 C01B010:Total number of registration requests that are denied by FA as a result of invalid encapsulation mode of a registration request	M134221245.G134706906	Sum	hugactpbh, hugbpbh
Deny_vj_compress	ACCUMULATION	INTEGER	Obsolete from GGSN/V800R006 C01B010:Total number of	M134221245.G134706907	Sum	hugactpbh, hugbpbh

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			registration requests that are denied by FA as a result of invalid VJ compression			
Receive_valid_registration_reply	ACCUMULATION	INTEGER	Obsolete from GGSN/V800R006 C01B010:Total number of valid registration replies that FA receives from HA	M134221245.G134706909	Sum	hugactpbh, hugbpbh
Relay_to_ha	ACCUMULATION	INTEGER	Obsolete from GGSN/V800R006 C01B010:Total number of registration requests that are successfully forwarded by FA	M134221245.G134706899	Sum	hugactpbh, hugbpbh
Relay_valid_registration_reply	ACCUMULATION	INTEGER	Obsolete from GGSN/V800R006 C01B010:Total number of valid registration replies that are forwarded by FA to mobile nodes	M134221245.G134706910	Sum	hugactpbh, hugbpbh
Valid_registration_request	ACCUMULATION	INTEGER	Obsolete from GGSN/V800R006 C01B010:Total number of valid registration requests recorded by FA	M134221245.G134706898	Sum	hugactpbh, hugbpbh

7.3.22 GGSN.Huawei.GPRS.PCC_Session_GGSN

Policy and Charging Control (PCC) session on GGSN

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
Activated_PDP_Contexts_With_PCC_Enabled	ACCUMULATION	INTEGER	Activated PDP Contexts With PCC Enabled (APN)	M134221267_GGSN.G134709603 or M134221268_GGSN.G134709603	Sum	hugactpbh, hugbpbh
Activated_PDP_Sessions_With_PCC_Enabled	ACCUMULATION	INTEGER	Activated PDP Sessions With PCC Enabled (APN)	M134221267_GGSN.G134709601 or M134221268_GGSN.G134709601	Sum	hugactpbh, hugbpbh
Deactivated_PDP_Contexts_With_PCC_Enabled	ACCUMULATION	INTEGER	Deactivated PDP Contexts With PCC Enabled (APN)	M134221267_GGSN.G134709604 or M134221268_GGSN.G134709604	Sum	hugactpbh, hugbpbh
Deactivated_PDP_Sessions_with_PCC_Enabled	ACCUMULATION	INTEGER	Deactivated PDP Sessions with PCC Enabled (APN)	M134221267_GGSN.G134709602 or M134221268_GGSN.G134709602	Sum	hugactpbh, hugbpbh

7.3.23 GGSN.Huawei.GPRS.PPPC

PPPC performance measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
_%_IPCP_negotiation_successes	PERCENTAGE	FLOAT	Percentage of successful IPCP negotiation	100 * {IPCP_negotiation_successes}/ {IPCP_negotiation	Average	hugactpbh, hugbpbh

			between the MS/LNS and the GGSN	_attempts}		
_%_LCP_negotiation_successes	PERCENTAGE	FLOAT	Percentage of successful LCP negotiation between the MS/LNS and the GGSN	100 * {LCP_negotiation_successes}/ {LCP_negotiation_attempts}	Average	hugactpbh, hugbpbh
IPCP_negotiation_attempts	ACCUMULATION	INTEGER	Attempts of IPCP negotiation between the MS/LNS and the GGSN	M134221240.G134687089	Sum	hugactpbh, hugbpbh
IPCP_negotiation_successes	ACCUMULATION	INTEGER	Successful times of IPCP negotiation between the MS/LNS and the GGSN	M134221240.G134687088	Sum	hugactpbh, hugbpbh
LCP_negotiation_attempts	ACCUMULATION	INTEGER	Attempts of LCP negotiation between the MS/LNS and the GGSN	M134221240.G134687087	Sum	hugactpbh, hugbpbh
LCP_negotiation_successes	ACCUMULATION	INTEGER	Successful times of LCP negotiation between the MS/LNS and the GGSN	M134221240.G134687086	Sum	hugactpbh, hugbpbh
Received_inv_PPP_negotiation_pckts	ACCUMULATION	INTEGER	The number of invalid PPP negotiation packets sent to the GGSN by the MS/LNS	M134221240.G134687085	Sum	hugactpbh, hugbpbh
Received_PPP_negotiation_pac	ACCUMULATION	INTEGER	The number of PPP negotiation	M134221240.G134687083	Sum	hugactpbh,

kets			packets sent to the GGSN by the MS/LNS			hugbpbh
Transmitted_PPP_negotiation_packets	ACCUMULATION	INTEGER	The number of PPP negotiation packets sent to the MS/LNS by the GGSN	M134221240.G134687084	Sum	hugactpbh, hugbpbh

7.3.24 GGSN.Huawei.GPRS.Prepay

Prepay service

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
CCR_Event_Request_request_success	ACCUMULATION	INTEGER	Obsolete from GGSN/V800R006 C01B010:Number of CCR (Event) request successes	M134221256.G134708324	Sum	hugactpbh, hugbpbh
CCR_Event_Request_request	ACCUMULATION	INTEGER	Obsolete from GGSN/V800R006 C01B010:Number of CCR (Event) requests	M134221256.G134708323	Sum	hugactpbh, hugbpbh
CCR_Initial_request_success	ACCUMULATION	INTEGER	Obsolete from GGSN/V800R006 C01B010:Number of CCR (Initial) request successes	M134221256.G134708315	Sum	hugactpbh, hugbpbh
CCR_Initial_req	ACCUMULA	INTEG	Number of	M134221256.G13	Sum	hugactpb

uest	TION	ER	CCR (Initial) requests	4708315		h, hugbpbh
CCR_Termination_request_success	ACCUMULATION	INTEGER	Obsolete from GGSN/V800R006 C01B010:Number of CCR (Termination) request successes	M134221256.G134708319	Sum	hugactpbh, hugbpbh
CCR_Termination_request	ACCUMULATION	INTEGER	Number of CCR (Termination) requests	M134221256.G134708319	Sum	hugactpbh, hugbpbh
CCR_Update_request_success	ACCUMULATION	INTEGER	Obsolete from GGSN/V800R006 C01B010:Number of CCR (Update) request successes	M134221256.G134708317	Sum	hugactpbh, hugbpbh
CCR_Update_request	ACCUMULATION	INTEGER	Number of CCR (Update) requests	M134221256.G134708317	Sum	hugactpbh, hugbpbh
Deactive_user_number_because_of_OCS_fault	ACCUMULATION	INTEGER	Deactive user number because of OCS fault	M134221256.G134708321	Sum	hugactpbh, hugbpbh
Failover_resend_message	ACCUMULATION	INTEGER	Failover resend message	M134221256.G134708320	Sum	hugactpbh, hugbpbh
OCS_communication_fault	ACCUMULATION	INTEGER	Number of OCS communication faults	M134221256.G134708301	Sum	hugactpbh, hugbpbh
OCS_redirection	ACCUMULATION	INTEGER	Number of OCS redirection	M134221256.G134708302	Sum	hugactpbh, hugbpbh
OCS_send_inactivation_request_success	ACCUMULATION	INTEGER	Obsolete from GGSN/V800R006	M134221256.G134708322	Sum	hugactpbh, hugbpbh

			C01B010:Number of OCS inactivation request successes			
OCS_send_inactivation_request	ACCUMULATION	INTEGER	Number of OCS inactivation requests	M134221256.G134708321	Sum	hugactpbh, hugbpbh
Prepay_users	ACCUMULATION	INTEGER	Number of prepaid users	M134221256.G134708309	Sum	hugactpbh, hugbpbh
Receive_ASR_message	ACCUMULATION	INTEGER	Times of receiving ASR message	M134221256.G134708307	Sum	hugactpbh, hugbpbh
Receive_CCA_message	ACCUMULATION	INTEGER	Times of receiving CCA message	M134221256.G134708304	Sum	hugactpbh, hugbpbh
Receive_packets_with_result_code_1	ACCUMULATION	INTEGER	Number of received packets with result code 1	M134221256.G134708310	Sum	hugactpbh, hugbpbh
Receive_packets_with_result_code_2	ACCUMULATION	INTEGER	Number of received packets with result code 2	M134221256.G134708311	Sum	hugactpbh, hugbpbh
Receive_packets_with_result_code_3	ACCUMULATION	INTEGER	Number of received packets with result code 3	M134221256.G134708312	Sum	hugactpbh, hugbpbh
Receive_packets_with_result_code_4	ACCUMULATION	INTEGER	Number of received packets with result code 4	M134221256.G134708313	Sum	hugactpbh, hugbpbh
Receive_packets_with_result_co	ACCUMULATION	INTEGER	Number of received	M134221256.G134708314	Sum	hugactpbh,

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de_5			packets with result code 5			hugbpbh
Receive_RAR_message	ACCUMULATION	INTEGER	Times of receiving RAR message	M134221256.G134708305	Sum	hugactpbh, hugbpbh
Send_ASA_message	ACCUMULATION	INTEGER	Times of sending ASA message	M134221256.G134708308	Sum	hugactpbh, hugbpbh
Send_CCR_message	ACCUMULATION	INTEGER	Times of sending CCR message	M134221256.G134708303	Sum	hugactpbh, hugbpbh
Send_RAA_message	ACCUMULATION	INTEGER	Times of sending RAA message	M134221256.G134708306	Sum	hugactpbh, hugbpbh

7.3.25 GGSN.Huawei.GPRS.SBR_traffic

SRB uplink and downlink traffic in packets and Kbytes

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
SBR_downlink_traffic_dropped_in_KB	ACCUMULATION	INT8	SBR downlink traffic dropped in KB	M134221229.G134686749	Sum	hugactpbh, hugbpbh
SBR_downlink_traffic_dropped_in_packets	ACCUMULATION	INTEGER	SBR downlink traffic dropped in packets	M134221229.G134686748	Sum	hugactpbh, hugbpbh
SBR_downlink_traffic_in_KB	ACCUMULATION	INT8	SBR downlink traffic in KB	M134221229.G134686747	Sum	hugactpbh, hugbpbh
SBR_downlink_traffic_in_packets	ACCUMULATION	INTEGER	SBR downlink traffic in packets	M134221229.G134686746	Sum	hugactpbh, hugbpbh
SBR_uplink_traffic_dropped_in_KB	ACCUMULATION	INT8	SBR uplink traffic dropped in KB	M134221229.G134686745	Sum	hugactpbh, hugbpbh
SBR_uplink_traffic_dropped_	ACCUMULATION	INTEGER	SBR uplink traffic dropped	M134221229.G134686744	Sum	hugactpbh,

in_packets			in packets			hugbpbh
SBR_uplink_traffic_in_KB	ACCUMULATION	INT8	SBR uplink traffic in KB	M134221229.G134686743	Sum	hugactpbh, hugbpbh
SBR_uplink_traffic_in_packets	ACCUMULATION	INTEGER	SBR uplink traffic in packets	M134221229.G134686742	Sum	hugactpbh, hugbpbh

7.3.26 GGSN.Huawei.GPRS.Signal_message_error_cause

Signal message error cause measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
IE_Duplicated	ACCUMULATION	INTEGER	Number of duplicated IEs	M134221248.G134706955	Sum	hugactpbh, hugbpbh
IE_Out_of_Order	ACCUMULATION	INTEGER	Number of IEs out of order	M134221248.G134706953	Sum	hugactpbh, hugbpbh
IE_Unexpected	ACCUMULATION	INTEGER	Number of unexpected IEs	M134221248.G134706954	Sum	hugactpbh, hugbpbh
IE_Unknown	ACCUMULATION	INTEGER	Number of unknown IEs	M134221248.G134706952	Sum	hugactpbh, hugbpbh
Mandatory_IE_Incorrect	ACCUMULATION	INTEGER	Number of errors of mandatory IEs	M134221248.G134706950	Sum	hugactpbh, hugbpbh
Mandatory_IE_Missing	ACCUMULATION	INTEGER	Number of loss of mandatory IEs	M134221248.G134706949	Sum	hugactpbh, hugbpbh
Message_Too_Short	ACCUMULATION	INTEGER	Number of extra-shot	M134221248.G134706948	Sum	hugactpbh,

			messages that are received			hugbpbh
Optional_IE_Incorrect	ACCUMULATION	INTEGER	Number of errors of optional IEs	M134221248.G134706956	Sum	hugactpbh, hugbpbh
Optional_IE_Invalid	ACCUMULATION	INTEGER	Number of invalidation of optional IEs	M134221248.G134706951	Sum	hugactpbh, hugbpbh
Packet_filters_with_semantic_errors	ACCUMULATION	INTEGER	Number of semantic errors of packet filters	M134221248.G134706944	Sum	hugactpbh, hugbpbh
Packet_filters_with_syntactic_errors	ACCUMULATION	INTEGER	Number of syntactic errors of packet filters	M134221248.G134706945	Sum	hugactpbh, hugbpbh
PDP_context_without_TFT_already_exists	ACCUMULATION	INTEGER	Number of PDP contexts without TFT that already exists	M134221248.G134706957	Sum	hugactpbh, hugbpbh
TFTs_with_semantic_errors	ACCUMULATION	INTEGER	Number of TFT semantic errors	M134221248.G134706942	Sum	hugactpbh, hugbpbh
TFTs_with_syntactic_errors	ACCUMULATION	INTEGER	Number of TFT syntactic errors	M134221248.G134706943	Sum	hugactpbh, hugbpbh
Unknown_Message	ACCUMULATION	INTEGER	Number of unknown messages that are received	M134221248.G134706947	Sum	hugactpbh, hugbpbh
Version_Not_Supported	ACCUMULATION	INTEGER	Number of packets that are not supported by the version	M134221248.G134706946	Sum	hugactpbh, hugbpbh

7.3.27 GGSN.Huawei.GPRS.Transport

Transport performance measurement

KPI	Type	Data Type	Description	Derivation	Default Aggrega	Other Aggrega

					tor	tors
_%_Device_Downlink_transport_success	INTENSITY	FLOAT	Gn Downlink packets/Gi Downlink packets * 100%	M134221229.G134686707	Average	hugactpbh, hugbpbh, Maximum, Minimum, Sum
_%_Device_Uplink_transport_success	INTENSITY	FLOAT	Gi Uplink packets/Gn Uplink packets * 100%	M134221229.G134686706	Average	hugactpbh, hugbpbh, Maximum, Minimum, Sum
Avg_packet_throughput	INTENSITY	FLOAT	Average forwarding rate of both Gn and Gi interfaces in statistics period	M134221229.G134686693	Average	hugactpbh, hugbpbh, Maximum, Minimum, Sum
Background_class_background_discarded_GTP_data_packets	ACCUMULATION	INTEGER	Number of discarded GTP packets of Background class	M134221229.G134686712	Sum	hugactpbh, hugbpbh
Conversational_class_conversational_discarded_GTP_data_packets	ACCUMULATION	INTEGER	Number of discarded GTP packets of Conversational class	M134221229.G134686709	Sum	hugactpbh, hugbpbh
Downlink_in_MB	ACCUMULATION	INT8	Downlink forwarding bytes on Gn and Gi interfaces in statistics period	{Gn_Downlink_in_MB} + {Gi_Downlink_in_MB}	Sum	hugactpbh, hugbpbh

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Gi_downlink_Average_Packet_Throughput	INTENSITY	FLOAT	Average Gi downlink packet forwarding rate during a period	M134221229.G134686728	Average	hugactpbh, hugbpbh, Maximum, Minimum, Sum
Gi_downlink_Average_Throughput_in_MB	INTENSITY	FLOAT	Average Gi downlink byte forwarding rate during a period	M134221229.G134686727	Average	hugactpbh, hugbpbh, Maximum, Minimum, Sum
Gi_downlink_error_L2TP_packets	ACCUMULATION	INTEGER	Number of downlink erroneous L2TP packets over the Gi interface	M134221229.G134686705	Sum	hugactpbh, hugbpbh
Gi_Downlink_in_MB	ACCUMULATION	INT8	Downlink forwarding bytes on Gi interface in statistics period	M134221229.G134686691	Sum	hugactpbh, hugbpbh
Gi_downlink_L2TP_packet_in_MB	ACCUMULATION	INTEGER	Megabytes of downlink L2TP packets over the Gi interface	M134221229.G134686702	Sum	hugactpbh, hugbpbh
Gi_downlink_L2TP_packets	ACCUMULATION	INTEGER	Number of downlink L2TP packets over the Gi interface	M134221229.G134686703	Sum	hugactpbh, hugbpbh
Gi_Downlink_packets	ACCUMULATION	INTEGER	Downlink forwarding packets on Gi interface in statistics period	M134221229.G134686692	Sum	hugactpbh, hugbpbh
Gi_downlink_Peak_Packet_Throughput	INTENSITY	FLOAT	Peak Gi downlink packet forwarding rate	M134221229.G134686720	Average	hugactpbh, hugbpbh, Maximu

			during a period			m, Minimum, Sum
Gi_downlink_peak_throughput_in_KB	INTENSITY	FLOAT	Peak Gi downlink byte forwarding rate during a period	M134221229.G134686739	Average	hugactpbh, hugbpbh, Maximum, Minimum, Sum
Gi_downlink_Peak_Throughput_in_MB	INTENSITY	FLOAT	Peak Gi downlink byte forwarding rate during a period	M134221229.G134686719	Average	hugactpbh, hugbpbh, Maximum, Minimum, Sum
Gi_downlink_traffic_in_KB	ACCUMULATION	INT8	Downlink forwarding bytes on Gi interface in the statistical period	M134221229.G134686735	Sum	hugactpbh, hugbpbh
Gi_IP_data_packets_discarded_for_error	ACCUMULATION	INTEGER	The number of the IP data packets that is discard on the Gi interface due to error	M134221229.G134686729	Sum	hugactpbh, hugbpbh
Gi_Peak_Packet_Throughput	INTENSITY	INTEGER	Maximum packet forwarding rate on Gi interface in statistics period	M134221229.G134686684	Average	hugactpbh, hugbpbh, Maximum, Minimum, Sum
Gi_peak_throug	INTENSITY	FLOA	The maximum	M134221229.G13	Average	hugactpb

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hput_in_KB		T	byte forwarding rate on Gi interface in the statistical period	4686731		h, hugbpbh, Maximum, Minimum, Sum
Gi_Peak_Throughput_in_MB	INTENSITY	INT8	Maximum byte forwarding rate on Gi interface in statistics period	M134221229.G134686683	Average	hugactpbh, hugbpbh, Maximum, Minimum, Sum
Gi_Uplink_Average_Packet_Throughput	INTENSITY	FLOAT	Average Gi uplink packet forwarding rate during a period	M134221229.G134686724	Average	hugactpbh, hugbpbh, Maximum, Minimum, Sum
Gi_Uplink_Average_Throughput_in_MB	INTENSITY	FLOAT	Average Gi uplink byte forwarding rate during a period	M134221229.G134686723	Average	hugactpbh, hugbpbh, Maximum, Minimum, Sum
Gi_Uplink_in_MB	ACCUMULATION	INT8	Uplink forwarding bytes on Gi interface in statistics period	M134221229.G134686689	Sum	hugactpbh, hugbpbh
Gi_uplink_L2TP_packet_in_MB	ACCUMULATION	INTEGER	Megabytes of uplink L2TP packets over the Gi interface	M134221229.G134686700	Sum	hugactpbh, hugbpbh
Gi_uplink_L2TP_packets	ACCUMULATION	INTEGER	Number of uplink L2TP packets over the Gi interface	M134221229.G134686701	Sum	hugactpbh, hugbpbh
Gi_Uplink_pack	ACCUMULA	INTEG	Uplink	M134221229.G13	Sum	hugactpb

ets	TION	ER	forwarding packets on Gi interface in statistics period	4686690		h, hugbpbh
Gi_Uplink_Peak_Packet_Throughput	INTENSITY	FLOAT	Peak Gi uplink packet forwarding rate during a period	M134221229.G134686716	Average	hugactpbh, hugbpbh, Maximum, Minimum, Sum
Gi_uplink_peak_throughput_in_KB	INTENSITY	FLOAT	Peak Gi uplink byte forwarding rate during a period	M134221229.G134686737	Average	hugactpbh, hugbpbh, Maximum, Minimum, Sum
Gi_Uplink_Peak_Throughput_in_MB	INTENSITY	FLOAT	Peak Gi uplink byte forwarding rate during a period	M134221229.G134686715	Average	hugactpbh, hugbpbh, Maximum, Minimum, Sum
Gi_uplink_traffic_in_KB	ACCUMULATION	INT8	Uplink forwarding bytes on Gi interface in the statistical period	M134221229.G134686734	Sum	hugactpbh, hugbpbh
Gn_downlink_Average_Packet_Throughput	INTENSITY	FLOAT	Average Gn downlink packet forwarding rate during a period	M134221229.G134686726	Average	hugactpbh, hugbpbh, Maximum, Minimum, Sum

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Gn_downlink_Average_Throughput_in_MB	INTENSITY	FLOAT	Average Gn downlink byte forwarding rate during a period	M134221229.G134686725	Average	hugactpbh, hugbpbh, Maximum, Minimum, Sum
Gn_Downlink_in_MB	ACCUMULATION	INT8	Downlink forwarding bytes on Gn interface in statistics period	M134221229.G134686687	Sum	hugactpbh, hugbpbh
Gn_Downlink_packets	ACCUMULATION	INTEGER	Downlink forwarding packets on Gn interface in statistics period	M134221229.G134686688	Sum	hugactpbh, hugbpbh
Gn_downlink_Peak_Packet_Throughput	INTENSITY	FLOAT	Peak Gn downlink packet forwarding rate during a period	M134221229.G134686718	Average	hugactpbh, hugbpbh, Maximum, Minimum, Sum
Gn_downlink_peak_throughput_in_KB	INTENSITY	FLOAT	Peak Gn downlink byte forwarding rate during a period	M134221229.G134686738	Average	hugactpbh, hugbpbh, Maximum, Minimum, Sum
Gn_downlink_Peak_Throughput_in_MB	INTENSITY	FLOAT	Peak Gn downlink byte forwarding rate during a period	M134221229.G134686717	Average	hugactpbh, hugbpbh, Maximum, Minimum, Sum
Gn_downlink_PPP_packet_in_MB	ACCUMULATION	INTEGER	Megabytes of downlink PPP packets over the Gn interface	M134221229.G134686698	Sum	hugactpbh, hugbpbh

Gn_downlink_PPP_packets	ACCUMULATION	INTEGER	The number of downlink PPP packets over the Gn interface	M134221229.G134686699	Sum	hugactpbh, hugbpbh
Gn_downlink_traffic_in_KB	ACCUMULATION	INT8	Downlink forwarding bytes on Gn interface in the statistical period	M134221229.G134686733	Sum	hugactpbh, hugbpbh
Gn_Peak_Packet_Throughput	INTENSITY	INTEGER	Maximum packet forwarding rate on Gn interface in statistics period	M134221229.G134686682	Average	hugactpbh, hugbpbh, Maximum, Minimum, Sum
Gn_peak_throughput_in_KB	INTENSITY	FLOAT	The maximum byte forwarding rate on Gn interface in the statistical period	M134221229.G134686730	Average	hugactpbh, hugbpbh, Maximum, Minimum, Sum
Gn_Peak_Throughput_in_MB	INTENSITY	INT8	Maximum byte forwarding rate on Gn interface in statistics period	M134221229.G134686681	Average	hugactpbh, hugbpbh, Maximum, Minimum, Sum
Gn_Uplink_Average_Packet_Throughput	INTENSITY	FLOAT	Average Gn uplink packet forwarding rate during a period	M134221229.G134686722	Average	hugactpbh, hugbpbh, Maximum, Minimum, Sum

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Gn_Uplink_Average_Throughput_in_MB	INTENSITY	FLOAT	Average Gn uplink byte forwarding rate during a period	M134221229.G134686721	Average	hugactpbh, hugbpbh, Maximum, Minimum, Sum
Gn_uplink_error_PPP_packets	ACCUMULATION	INTEGER	Number of uplink erroneous PPP packets over the Gn interface	M134221229.G134686704	Sum	hugactpbh, hugbpbh
Gn_Uplink_in_MB	ACCUMULATION	INT8	Uplink forwarding bytes on Gn interface in statistics period	M134221229.G134686685	Sum	hugactpbh, hugbpbh
Gn_Uplink_packets	ACCUMULATION	INTEGER	Uplink forwarding packets on Gn interface in statistics period	M134221229.G134686686	Sum	hugactpbh, hugbpbh
Gn_Uplink_Peak_Packet_Throughput	INTENSITY	FLOAT	Peak Gn uplink packet forwarding rate during a period	M134221229.G134686714	Average	hugactpbh, hugbpbh, Maximum, Minimum, Sum
Gn_uplink_peak_throughput_in_KB	INTENSITY	FLOAT	Peak Gn uplink byte forwarding rate during a period	M134221229.G134686736	Average	hugactpbh, hugbpbh, Maximum, Minimum, Sum
Gn_Uplink_Peak_Throughput_in_MB	INTENSITY	FLOAT	Peak Gn uplink byte forwarding rate during a period	M134221229.G134686713	Average	hugactpbh, hugbpbh, Maximum, Minimu

						m, Sum
Gn_uplink_PPP_packet_in_MB	ACCUMULATION	INTEGER	Megabytes of uplink PPP packets over the Gn interface	M134221229.G134686696	Sum	hugactpbh, hugbpbh
Gn_uplink_PPP_packets	ACCUMULATION	INTEGER	Number of uplink PPP packets over the Gn interface	M134221229.G134686697	Sum	hugactpbh, hugbpbh
Gn_uplink_traffic_in_KB	ACCUMULATION	INT8	Uplink forwarding bytes on Gn interface in the statistical period	M134221229.G134686732	Sum	hugactpbh, hugbpbh
Interactive_class_interactive_discarded_GTP_data_packets	ACCUMULATION	INTEGER	Number of discarded GTP packets of Interactive class	M134221229.G134686711	Sum	hugactpbh, hugbpbh
Packet_Numbers_of_Layer_7_Parsing	ACCUMULATION	INT8	Number of packets of Layer 7 parsing in each measurement period.	M134221229.G134686740	Sum	hugactpbh, hugbpbh
Packets_exceed_1500_bytes	ACCUMULATION	INTEGER	Downlink forwarding packets exceed 1500 bytes on Gi interface in statistics period	M134221229.G134686695	Sum	hugactpbh, hugbpbh
Peak_Packet_Numbers_of_Layer_7_Parsing	INTENSITY	FLOAT	Peak packets of Layer 7 parsing in each measurement period.	M134221229.G134686741	Average	hugactpbh, hugbpbh, Maximum,

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						Minimum, Sum
Peak_packet_throughput	INTENSITY	INTEGER	Maximum value of forwarding rate of both Gn and Gi interfaces in statistics period	M134221229.G134686694	Average	hugactpbh, hugbpbh, Maximum, Minimum, Sum
Streaming_class_streaming_discarded_GTP_data_packets	ACCUMULATION	INTEGER	Number of discarded GTP packets of Streaming class	M134221229.G134686710	Sum	hugactpbh, hugbpbh
Total_Gn_Gi_packets	ACCUMULATION	INT8	Uplink and Downlink packets on Gn and Gi interface in statistics period	M134221229.G134686686 + G134686688 + G134686690 + G134686692	Sum	hugactpbh, hugbpbh
Unexpected_G_PDU_messages	ACCUMULATION	INTEGER	Unexpected uplink GPDU messages on Gn	M134221229.G134686708	Sum	hugactpbh, hugbpbh
Uplink_and_Downlink_in_MB	ACCUMULATION	INT8	Uplink and Downlink bytes on Gn and Gi interface in statistics period	{Gn_Uplink_in_MB} + {Gi_Uplink_in_MB} + {Gn_Downlink_in_MB} + {Gi_Downlink_in_MB}	Sum	hugactpbh, hugbpbh
Uplink_in_MB	ACCUMULATION	INT8	Uplink forwarding bytes on Gn and Gi interfaces in statistics period	{Gn_Uplink_in_MB} + {Gi_Uplink_in_MB}	Sum	hugactpbh, hugbpbh

7.3.28 GGSN.Huawei.GPRS.Tunnels

Tunnels measurement

KPI	Type	Data Type	Description	Derivation	Default Aggrega	Other Aggrega

					tor	tors
number_of_attempts_of_IPSec_tunnel_establishments	ACCUMULATION	INTEGER	number of attempts of IPSec tunnel establishments	M134221700.G134840002	Sum	hugactpbh, hugbpbh
number_of_IKE_tunnels	ACCUMULATION	INTEGER	number of IKE tunnels	M134221700.G134840000	Sum	hugactpbh, hugbpbh
number_of_IPSec_tunnels	ACCUMULATION	INTEGER	number of IPSec tunnels	M134221700.G134840001	Sum	hugactpbh, hugbpbh
number_of_successful_IPSec_tunnel_establishments	ACCUMULATION	INTEGER	number of successful IPSec tunnel establishments	M134221700.G134840003	Sum	hugactpbh, hugbpbh

7.3.29 GGSN.Huawei.GPRS.Users_number

Number of subscribers with PDP context

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
Average_subscribers_with_act_PDP_context	INTENSITY	FLOAT	Average number of subscribers with PDP context	M134221251.G134707702	Average	hugactpbh, hugbpbh, Maximum, Minimum, Sum
Maximum_subscribers_with_act_PDP_context	INTENSITY	INTEGER	Maximum number of subscribers with PDP context	M134221251.G134707703	Average	hugactpbh, hugbpbh, Maximum, Minimum, Sum

Subscribers_with_PDP_Context	ACCUMULATION	INTEGER	Number of subscribers with PDP context	M134221251.G134707701	Sum	hugactpbh, hugbpbh

7.4 GGSN_Board Performance Indicators

This section shows the key performance indicators and other counters for the GGSN_Board object, divided into the following sub-sections:

- GGSN_Board.Huawei.GPRS.Flow_nodes
- GGSN_Board.Huawei.GPRS.System_resource

7.4.1 GGSN_Board.Huawei.GPRS.Flow_nodes

**Obsolete in GGSN/V800R006 C02. Flow node created, used and aged.

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
Average_Value_of_Flow_Nodes_Used	INTENSITY	FLOAT	Obsolete from GGSN/V800R006 C01B010:Average value of flow nodes used in each measurement period.	M134221261.G134708906	Average	hugactpbh, hugbpbh, Maximum, Minimum, Sum
Current_Value_of_Flow_Nodes_Used	ACCUMULATION	INTEGER	Obsolete from GGSN/V800R006 C01B010:Number of currently used flow nodes in each measurement period.	M134221261.G134708905	Sum	hugactpbh, hugbpbh
Flow_Nodes_Numbers_Aged	ACCUMULATION	INTEGER	Obsolete from GGSN/V800R006 C01B010:Number of aged flow nodes in each	M134221261.G134708902	Sum	hugactpbh, hugbpbh

			measurement period.			
Flow_Nodes_Numbers_Created	ACCUMULATION	INTEGER	Obsolete from GGSN/V800R006 C01B010:Number of increased flow nodes in each measurement period.	M134221261.G134708901	Sum	hugactpbh, hugbpbh
Peak_Value_of_Flow_Nodes_Aged	INTENSITY	INTEGER	Obsolete from GGSN/V800R006 C01B010:Peak value of aged flow nodes in each measurement period.	M134221261.G134708904	Average	hugactpbh, hugbpbh, Maximum, Minimum, Sum
Peak_Value_of_Flow_Nodes_Created	INTENSITY	INTEGER	Obsolete from GGSN/V800R006 C01B010:Peak value of increased flow nodes in each measurement period.	M134221261.G134708903	Average	hugactpbh, hugbpbh, Maximum, Minimum, Sum
Peak_Value_of_Flow_Nodes_Used	INTENSITY	INTEGER	Obsolete from GGSN/V800R006 C01B010:Peak value of flow nodes used in each measurement period.	M134221261.G134708907	Average	hugactpbh, hugbpbh, Maximum, Minimum, Sum

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7.4.2 GGSN_Board.Huawei.GPRS.System_resource

System resource measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
Avg_CPU_occupation_ratio	INTENSITY	FLOAT	Obsolete from GGSN/V800R006 C01B010:Perform the statistics of the average value of the board CPU occupation in a period	M134221233.G134687081	Average	hugactpbh, hugbpbh, Maximum, Minimum, Sum
Avg_harddisk_utilization_ratio	INTENSITY	FLOAT	Average hard disk utilization ratio during a period	M134221233.G134687102	Average	hugactpbh, hugbpbh, Maximum, Minimum, Sum
Avg_memory_utilization_ratio	INTENSITY	FLOAT	Obsolete from GGSN/V800R006 C01B010:Perform the statistics of the average value of the board memory occupation in a period	M134221233.G134687082	Average	hugactpbh, hugbpbh, Maximum, Minimum, Sum
CDR_hard_disk_usage	INTENSITY	FLOAT	CDR hard disk usage	M134221233.G134709201	Average	hugactpbh, hugbpbh, Maximum, Minimum, Sum
Peak_CPU_occu	INTENSI	FLOA	Obsolete from	M134221233.G1346	Average	hugactpb

pation_ratio	TY	T	GGSN/V800R006 C01B010:Peak CPU occupation ratio of a board during a period	87101		h, hugbpbh, Maximum, Minimum, Sum

7.5 GPRS_Tunnel Performance Indicators

This section shows the key performance indicators and other counters for the GPRS_Tunnel object, divided into the following sub-sections:

- GPRS_Tunnel.Huawei.GPRS.Tunnels

7.5.1 GPRS_Tunnel.Huawei.GPRS.Tunnels

GGSN tunnel measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
number_of_attempts_of_IPSec_tunnel_establishments_TUNNEL	ACCUMULATION	INTEGER	number of attempts of IPSec tunnel establishments(TUNNEL)	M134221701.G134840022	Sum	hugactpbh, hugbpbh
number_of_IKE_tunnels_TUNNEL	ACCUMULATION	INTEGER	number of IKE tunnels(TUNNEL)	M134221701.G134840020	Sum	hugactpbh, hugbpbh
number_of_IPSec_tunnels_TUNNEL	ACCUMULATION	INTEGER	number of IPSec tunnels(TUNNEL)	M134221701.G134840021	Sum	hugactpbh, hugbpbh
number_of_successful_IPSec_tunnel_establishments_TUNNEL	ACCUMULATION	INTEGER	number of successful IPSec tunnel establishments(TUNNEL)	M134221701.G134840023	Sum	hugactpbh, hugbpbh

7.6 HPLMN Performance Indicators

This section shows the key performance indicators and other counters for the HPLMN object, divided into the following sub-sections:

- HPLMN.Huawei.GPRS.HPLMN_session

7.6.1 HPLMN.Huawei.GPRS.HPLMN_session

HPLMN session measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
Down_Kbytes	ACCUMULATION	INT8	Downstream KB based	M134221246.G134706990	Sum	
HPLMN_active_PDP_context	INTENSITY	INTEGER	Number of PDP contexts that are currently activated based on HPLMN	M134221246.G134706988	Average	Maximum, Minimum, Sum
HPLMN_GGSN_PDP_context_deactivate_request	ACCUMULATION	INTEGER	Number of PDP context deactivation requests initiated by the GGSN and based on HPLMN	M134221246.G134706986	Sum	
HPLMN_GGSN_PDP_context_deactivate_success	ACCUMULATION	INTEGER	Number of successful PDP context deactivation initiated by the GGSN and based on HPLMN	M134221246.G134706987	Sum	
HPLMN_MS_PDP_context_deactivate_request	ACCUMULATION	INTEGER	Number of PDP context deactivation requests initiated by MS	M134221246.G134706984	Sum	

			and based on HPLMN			
HPLMN_MS_PDP_context_deactivate_success	ACCUMULATION	INTEGER	Number of successful PDP context deactivation initiated by MS and based on HPLMN	M134221246.G134706985	Sum	
HPLMN_PDP_context_activate_failure	ACCUMULATION	INTEGER	Number of failed PDP context activation initiated by MS and based on HPLMN	M134221246.G134706983	Sum	
HPLMN_PDP_context_activate_request	ACCUMULATION	INTEGER	Number of PDP context activation requests initiated by MS and based on HPLMN	M134221246.G134706981	Sum	
HPLMN_PDP_context_activate_success	ACCUMULATION	INTEGER	Number of successful PDP context activation initiated by MS and based on HPLMN	M134221246.G134706982	Sum	
Uplink_Kbytes	ACCUMULATION	INT8	Upstream KB based	M134221246.G134706989	Sum	

7.7 IMSI Performance Indicators

This section shows the key performance indicators and other counters for the IMSI object, divided into the following sub-sections:

- IMSI.Huawei.GPRS.User_bill

7.7.1 IMSI.Huawei.GPRS.User_bill

User bill measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
_%_CDRs_create_success	PERCENTAGE	FLOAT	Perform the statistics about the specific users bills which are created successfully	100 * {CDRs_create_success}/ ({CDRs_create_success} + {CDRs_create_fault})	Average	
CDRs_create_fault	ACCUMULATION	INTEGER	Perform the statistics about the specific users bills which are created unsuccessfully	M134221238.G134706682	Sum	
CDRs_create_success	ACCUMULATION	INTEGER	Perform the statistics about the specific users bills which are created successfully	M134221238.G134706681	Sum	

7.8 PCRF Performance Indicators

This section shows the key performance indicators and other counters for the PCRF object, divided into the following sub-sections:

- PCRF.Huawei.GPRS.Gx_interface_performance_PCRF
- PCRF.Huawei.GPRS.PCC_Session_PCRF

7.8.1 PCRF.Huawei.GPRS.Gx_interface_performance_PCRF

Gx interface performance on PCRF

KPI	Type	Data	Description	Derivation	Default	Other

		Type			Aggregator	Aggregators
PCC_Received_ASR_Messages_PCRF	ACCUMULATION	INTEGER	PCC Received ASR Messages (PCRF)	M134221266.G134709511 or M134221267.G134709511	Sum	
PCC_Received_CCAI_Messages_PCRF	ACCUMULATION	INTEGER	PCC Received CCA-I Messages (PCRF)	M134221266.G134709504 or M134221267.G134709504	Sum	
PCC_Received_CCAT_Message_PCRF	ACCUMULATION	INTEGER	PCC Received CCA-T Message (PCRF)	M134221266.G134709508 or M134221267.G134709508	Sum	
PCC_Received_CCAU_Messages_PCRF	ACCUMULATION	INTEGER	PCC Received CCA-U Messages (PCRF)	M134221266.G134709506 or M134221267.G134709506	Sum	
PCC_Received_Messages_PCRF	ACCUMULATION	INTEGER	PCC Received Messages (PCRF)	M134221266.G134709502 or M134221267.G134709502	Sum	
PCC_Received_RAR_Messages_PCRF	ACCUMULATION	INTEGER	PCC Received RAR Messages (PCRF)	M134221266.G134709509 or M134221267.G134709509	Sum	
PCC_Sent_ASA_Messages_PCRF	ACCUMULATION	INTEGER	PCC Sent ASA Messages (PCRF)	M134221266.G134709512 or M134221267.G134709512	Sum	
PCC_Sent_CCRI_Messages_PCRF	ACCUMULATION	INTEGER	PCC Sent CCR-I Messages (PCRF)	M134221266.G134709503 or M134221267.G134709503	Sum	
PCC_Sent_CC	ACCUMULA	INTEG	PCC Sent CCR-	M134221266.G134	Sum	

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RT_Messages_PCRF	TION	ER	T Messages (PCRF)	709507 or M134221267.G134709507		
PCC_Sent_CCRU_Messages_PCRF	ACCUMULATION	INTEGER	PCC Sent CCR-U Messages (PCRF)	M134221266.G134709505 or M134221267.G134709505	Sum	
PCC_Sent_Messages_PCRF	ACCUMULATION	INTEGER	PCC Sent Messages (PCRF)	M134221266.G134709501 or M134221267.G134709501	Sum	
PCC_Sent_RAA_Messages_PCRF	ACCUMULATION	INTEGER	PCC Sent RAA Messages (PCRF)	M134221266.G134709510 or M134221267.G134709510	Sum	

7.8.2 PCRF.Huawei.GPRS.PCC_Session_PCRF

Policy and Charging Control (PCC) session on PCRF

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
Activated_PDP_Contexts_With_PCC_Enabled_PCRF	ACCUMULATION	INTEGER	Activated PDP Contexts With PCC Enabled (PCRF)	M134221269.G134709803 or M134221270.G134709803	Sum	
Activated_PDP_Sessions_With_PCC_Enabled_PCRF	ACCUMULATION	INTEGER	Activated PDP Sessions With PCC Enabled (PCRF)	M134221269.G134709801 or M134221270.G134709801	Sum	
Deactivated_PDP_Contexts_With_PCC_Enabled_PCRF	ACCUMULATION	INTEGER	Deactivated PDP Contexts With PCC Enabled (PCRF)	M134221269.G134709804 or M134221270.G134709804	Sum	
Deactivated_PDP_Sessions_with_PCC_Enabled_PCRF	ACCUMULATION	INTEGER	Deactivated PDP Sessions with PCC Enabled (PCRF)	M134221269.G134709802 or M134221270.G134709802	Sum	

7.9 Physical_Port Performance Indicators

This section shows the key performance indicators and other counters for the Physical_Port object, divided into the following sub-sections:

- Physical_Port.Huawei.GPRS.Physical_port

7.9.1 Physical_Port.Huawei.GPRS.Physical_port

Physical port measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
Physical_Port_traffic_received_PORT	ACCUMULATION	INTEGER	Physical Port traffic received in MB(PORT)	M134221264_PORT.G134707313	Sum	hugactpbh, hugbpbh
Physical_Port_traffic_sent_PORT	ACCUMULATION	INTEGER	Physical Port traffic sent in MB(PORT)	M134221264_PORT.G134707314	Sum	hugactpbh, hugbpbh

7.10 Processor Performance Indicators

This section shows the key performance indicators and other counters for the Processor object, divided into the following sub-sections:

- Processor.Huawei.GPRS.Service_resources
- Processor.Huawei.GPRS.System_resources

7.10.1 Processor.Huawei.GPRS.Service_resources

Service resources measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
Average_Value_of_Five_Item	INTENSITY	FLOAT	Average Value of Five Items	M134221262.G134708906	Average	hupcbh, Sum,

s_Used			Used			Minimum, Maximum
Average_value_of_rating_group_nodes_used	INTENSITY	FLOAT	Average value of rating group nodes used	M134221262.G134708918	Average	hupcbh, Sum, Minimum, Maximum
Current_Value_of_Five_Items_Used	INTENSITY	FLOAT	Current Value of Five Items Used	M134221262.G134708905	Average	hupcbh, Sum, Minimum, Maximum
Current_value_of_rating_group_nodes_used	INTENSITY	FLOAT	Current value of rating group nodes used	M134221262.G134708917	Average	hupcbh, Sum, Minimum, Maximum
DNS_used_five_items_node_number	ACCUMULATION	INTEGER	DNS used five items node number	M134221262.G134708920	Sum	hupcbh
Five_Items_Numbers_Aged	ACCUMULATION	INTEGER	Five Items Numbers Aged	M134221262.G134708902	Sum	hupcbh
Five_Items_Numbers_Created	ACCUMULATION	INTEGER	Five Items Numbers Created	M134221262.G134708901	Sum	hupcbh
FTP_used_five_items_node_number	ACCUMULATION	INTEGER	FTP used five items node number	M134221262.G134708912	Sum	hupcbh
HTTP_used_five_items_node_number	ACCUMULATION	INTEGER	HTTP used five items node number	M134221262.G134708908	Sum	hupcbh
IM_used_five_items_node_number	ACCUMULATION	INTEGER	IM used five items node number	M134221262.G134708928	Sum	hupcbh
IMAP_used_fi	ACCUMULA	INTEG	IMAP used five	M134221262.G134	Sum	hupcbh

ve_items_node_number	TION	ER	items node number	708923		
MMSP_used_five_items_node_number	ACCUMULATION	INTEGER	MMSP used five items node number	M134221262.G134708925	Sum	hupcbh
P2P_used_five_items_node_number	ACCUMULATION	INTEGER	P2P used five items node number	M134221262.G134708926	Sum	hupcbh
Peak_Value_of_Five_Items_Aged	INTENSITY	FLOAT	Peak Value of Five Items Aged	M134221262.G134708904	Average	hupcbh, Sum, Minimum, Maximum
Peak_Value_of_Five_Items_Created	INTENSITY	FLOAT	Peak Value of Five Items Created	M134221262.G134708903	Average	hupcbh, Sum, Minimum, Maximum
Peak_Value_of_Five_Items_Used	INTENSITY	FLOAT	Peak Value of Five Items Used	M134221262.G134708907	Average	hupcbh, Sum, Minimum, Maximum
Peak_Value_of_rating_group_nodes_aged	INTENSITY	FLOAT	Peak Value of rating group nodes aged	M134221262.G134708916	Average	hupcbh, Sum, Minimum, Maximum
Peak_value_of_rating_group_nodes_created	INTENSITY	FLOAT	Peak value of rating group nodes created	M134221262.G134708915	Average	hupcbh, Sum, Minimum,

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						Maximum
Peak_value_of_rating_group_nodes_used	INTENSITY	FLOAT	Peak value of rating group nodes used	M134221262.G134708919	Average	hupcbh, Sum, Minimum, Maximum
POP3_used_five_items_node_number	ACCUMULATION	INTEGER	POP3 used five items node number	M134221262.G134708922	Sum	hupcbh
Rating_group_nodes_numbers_aged	ACCUMULATION	INTEGER	Rating group nodes Numbers aged	M134221262.G134708914	Sum	hupcbh
Rating_group_nodes_numbers_created	ACCUMULATION	INTEGER	Rating group nodes numbers created	M134221262.G134708913	Sum	hupcbh
RTSP_used_five_items_node_number	ACCUMULATION	INTEGER	RTSP used five items node number	M134221262.G134708911	Sum	hupcbh
SMTP_used_five_items_node_number	ACCUMULATION	INTEGER	SMTP used five items node number	M134221262.G134708921	Sum	hupcbh
TFTP_used_five_items_node_number	ACCUMULATION	INTEGER	TFTP used five items node number	M134221262.G134708924	Sum	hupcbh
VOIP_used_five_items_node_number	ACCUMULATION	INTEGER	VOIP used five items node number	M134221262.G134708927	Sum	hupcbh
WAP1X_used_five_items_node_number	ACCUMULATION	INTEGER	WAP1.X used five items node number	M134221262.G134708910	Sum	hupcbh
WAP20_used_five_items_node_number	ACCUMULATION	INTEGER	WAP2.0 used five items node number	M134221262.G134708909	Sum	hupcbh

7.10.2 Processor.Huawei.GPRS.System_resources

System resources measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
Average_CPU_usage	INTENSITY	FLOAT	Average CPU utilization on the boards in a measurement period.	M134221263.G134709103	Average	hupcbh, Sum, Minimum, Maximum
Average_memory_usage	INTENSITY	FLOAT	Average utilization of the dynamic memory on the boards in a measurement period.	M134221263.G134709105	Average	hupcbh, Sum, Minimum, Maximum
CPU_usage	INTENSITY	FLOAT	Current CPU utilization on the boards in a measurement period.	M134221263.G134709101	Average	hupcbh, Sum, Minimum, Maximum
Memory_usage	INTENSITY	FLOAT	Current utilization of the dynamic memory on the boards in a measurement period.	M134221263.G134709102	Average	hupcbh, Sum, Minimum, Maximum
Peak_CPU_usage	INTENSITY	FLOAT	Maximum CPU utilization on the boards in a measurement period.	M134221263.G134709104	Average	hupcbh, Sum, Minimum, Maximum

7.11 SGSN_IP Performance Indicators

This section shows the key performance indicators and other counters for the SGSN_IP object, divided into the following sub-sections:

- SGSN_IP.Huawei.GPRS.SGSN_session

7.11.1 SGSN_IP.Huawei.GPRS.SGSN_session

SGSN session measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
PDPcntx_act_failed_APN_Restriction_type_incompatibility_SGSN	ACCUMULATION	INTEGER	PDP context act. failed - APN Restriction type incompatibility (SGSN)	M134221247.G134707113	Sum	
SG_Dynamic_address_activate_session_request	ACCUMULATION	INTEGER	Attempts of dynamic PDP context activating program initiated by MS, based on SGSN IP	M134221247.G134707086	Sum	
SG_Dynamic_address_activate_session_succeed	ACCUMULATION	INTEGER	Successful times of dynamic PDP context activating program initiated by MS, based on SGSN IP	M134221247.G134707087	Sum	
SG_GGSN_deactivate_session_request	ACCUMULATION	INTEGER	Attempts of PDP context deactivation program initiated by GGSN, based on SGSN IP	M134221247.G134707090	Sum	

SG_GGSN_deactivate_session_succeed	ACCUMULATION	INTEGER	Successful times of PDP context deactivation program initiated by GGSN, based on SGSN IP	M134221247.G134707091	Sum	
SG_GGSN_modify_session_request	ACCUMULATION	INTEGER	Attempts of PDP context modification program initiated by GGSN, based on SGSN IP	M134221247.G134707094	Sum	
SG_GGSN_modify_session_succeed	ACCUMULATION	INTEGER	Successful times of PDP context modification program initiated by GGSN, based on SGSN IP	M134221247.G134707095	Sum	
SG_MS_activate_PDP_context_satisfy_QOS	ACCUMULATION	INTEGER	Times of PDP context activation QOS promising initiated by MS, based on SGSN IP	M134221247.G134707096	Sum	
SG_MS_deactivate_session_request	ACCUMULATION	INTEGER	Attempts of PDP context deactivating program initiated by MS, based on SGSN IP	M134221247.G134707088	Sum	
SG_MS_deactiv	ACCUMULA	INTEG	Successful	M134221247.G13	Sum	

ate_session_succeed	TION	ER	times of PDP context deactivating program initiated by MS, based on SGSN IP	4707089		
SG_MS_launch_second_active_request	ACCUMULATION	INTEGER	Times that PDP context secondary activation request, based on SGSN IP	M134221247.G134707084	Sum	
SG_MS_launch_second_active_succeed	ACCUMULATION	INTEGER	Successful times of PDP context secondary activating, based on SGSN IP	M134221247.G134707085	Sum	
SG_MS_modify_session_request	ACCUMULATION	INTEGER	Attempts of PDP context modification program initiated by MS, based on SGSN IP	M134221247.G134707092	Sum	
SG_MS_modify_session_succeed	ACCUMULATION	INTEGER	Successful times of PDP context modification program initiated by MS, based on SGSN IP	M134221247.G134707093	Sum	
SG_MS_PDP_context_active_failed_by_auth_failed	ACCUMULATION	INTEGER	MS PDP context activation failed times caused by the authentication failure	M134221247.G134707098	Sum	

SG_MS_PDP_context_active_failed_by_no_resource	ACCUMULATION	INTEGER	MS PDP context activation failed times caused by no available resources	M134221247.G134707097	Sum	
SG_MS_PDP_context_active_failed_by_other_reason	ACCUMULATION	INTEGER	MS PDP context activation failed times caused by other reasons	M134221247.G134707100	Sum	
SG_MS_PDP_context_active_failed_by_system_fault	ACCUMULATION	INTEGER	MS PDP context activation failed times caused by the system faults	M134221247.G134707099	Sum	
SG_PDP_act_fail_by_no_dynamic_PDP_addresses	ACCUMULATION	INTEGER	Times of failed PDP context activation caused by no dynamic PDP addresses	M134221247.G134707104	Sum	
SG_PDP_act_fail_by_no_memory	ACCUMULATION	INTEGER	Times of failed PDP context activation caused by no free memory	M134221247.G134707105	Sum	
SG_PDP_act_fail_by_PDP_without_TFT_already_act	ACCUMULATION	INTEGER	Times of failed PDP context activation caused by no activated TFT context	M134221247.G134707111	Sum	
SG_PDP_act_fail_by_semantic_err_in_packet_fi	ACCUMULATION	INTEGER	Times of failed PDP context activation	M134221247.G134707109	Sum	

lter			caused by semantic error during packet filtering			
SG_PDP_act_fail_by_semantic_err_in_the_TFT_operation	ACCUMULATION	INTEGER	Times of failed PDP context activation caused by semantic error of TFT operations	M134221247.G134707107	Sum	
SG_PDP_act_fail_by_syntactic_err_in_packet_filter	ACCUMULATION	INTEGER	Times of failed PDP context activation caused by syntax error during packet filtering	M134221247.G134707110	Sum	
SG_PDP_act_fail_by_syntactic_err_in_the_TFT_operation	ACCUMULATION	INTEGER	Times of failed PDP context activation caused by syntax error of TFT operations	M134221247.G134707108	Sum	
SG_PDP_act_fail_by_unknown_PDP_address_or_PDP_type	ACCUMULATION	INTEGER	GGSN sends a message telling ?Create PDP Context Response? to the SGSN, and the Cause value of failed activation is ? No memory is available?	M134221247.G134707106	Sum	
SG_PDP_context_activate_request	ACCUMULATION	INTEGER	Attempts of PDP context activation program initiated by MS, based on SGSN IP	M134221247.G134707081	Sum	

SG_PDP_context_activate_success_ratio	INTENSITY	INTEGER	Successful rate of PDP context activation program initiated by MS, based on SGSN IP	M134221247.G134707083	Average	Maximum, Minimum, Sum
SG_PDP_context_activate_success	ACCUMULATION	INTEGER	Successful times of PDP context activating program initiated by MS, based on SGSN IP	M134221247.G134707082	Sum	
SG_PDP_deact_fail_by_non_existent	ACCUMULATION	INTEGER	Times of failed PDP context deactivation caused by non-existence of PDP	M134221247.G134707112	Sum	
SG_total_number_of_downstream_kbytes	ACCUMULATION	INT8	Obsolete from GGSN/V800R006 C01B010:Downstream Kbytes based on SGSN IP	M134221247.G134707103	Sum	
SG_total_number_of_upstream_and_downstream_kbytes	ACCUMULATION	INT8	Obsolete from GGSN/V800R006 C01B010:Upstream and downstream Kbytes based on SGSN IP	M134221247.G134707101	Sum	
SG_total_number_of_upstream_	ACCUMULATION	INT8	Obsolete from GGSN/V800R0	M134221247.G134707102	Sum	

kbytes			06 C01B010:Upstream Kbytes based on SGSN IP			

8 Performance Alarms

This section shows details of the alarms that are defined in this technology pack module:

None.

9 Reports

This section shows details of the reports that are defined in this technology pack module.

All reports can be run as raw, daily, weekly or monthly reports.

Where a KPI is marked (DA), it means Data Availability is to be reported upon it.

- APN Reports.
- GGSN Reports.
- GGSN_Board Reports.

9.1 APN Reports.

This section shows reports for the APN object.

- 2G APN sessions report
- 3G APN sessions report
- APN session by traffic class
- APN status report
- Gn and Gi traffic APN report
- PDP context status graph

9.1.1 G APN sessions report

This report shows the APN 2G session performance.

Report Feature	Details
Report Tree Branch	System.GPRS.Engineering.CN.Huawei.APN
Primary Object	APN
APN 2G session	APN.APN_Id, APN.GGSN_Id, APN.Huawei.GTPV1_APN_session.GTPv1_MS_activate_session_request (DA), APN.Huawei.GTPV1_APN_session.GTPv1_MS_activate_session_succeed, APN.Huawei.GTPV1_APN_session.GTPv1_MS_act_PDP_context_success_ratio, APN.Huawei.GTPV1_APN_session.GTPv1_MS_launch_second_active_request,

	APN.Huawei.GTPV1_APN_session.GTPv1_MS_launch_second_active_succeed, APN.Huawei.GTPV1_APN_session._%_MS_launch_second_active_succeed, APN.Huawei.GTPV1_APN_session.GTPv1_Dynamic_address_activate_session_request, APN.Huawei.GTPV1_APN_session.GTPv1_Dynamic_address_activate_session_succeed, APN.Huawei.GTPV1_APN_session._%_Dynamic_address_act_session_succeed, APN.Huawei.GTPV1_APN_session.GTPv1_MS_deactivate_session_request, APN.Huawei.GTPV1_APN_session.GTPv1_MS_deactivate_session_succeed, APN.Huawei.GTPV1_APN_session._%_MS_deactivate_session_succeed, APN.Huawei.GTPV1_APN_session.GTPv1_GGSN_deactivate_session_request, APN.Huawei.GTPV1_APN_session.GTPv1_GGSN_deactivate_session_succeed, APN.Huawei.GTPV1_APN_session._%_GGSN_deactivate_session_succeed, APN.Huawei.GTPV1_APN_session.GTPv1_MS_modify_session_request, APN.Huawei.GTPV1_APN_session.GTPv1_MS_modify_session_succeed, APN.Huawei.GTPV1_APN_session._%_MS_modify_session_succeed, APN.Huawei.GTPV1_APN_session.GTPv1_GGSN_modify_session_request, APN.Huawei.GTPV1_APN_session.GTPv1_GGSN_modify_session_succeed, APN.Huawei.GTPV1_APN_session._%_GGSN_modify_session_succeed

9.1.2 G APN sessions report

This report shows the APN 3G session performance.

Report Feature	Details
Report Tree Branch	System.GPRS.Engineering.CN.Huawei.APN
Primary Object	APN
APN 3G session	APN.APN_Id, APN.GGSN_Id, APN.Huawei.GTPV0_APN_session.GTPv0_MS_activate_session_request,

	APN.Huawei.GTPV0_APN_session.GTPv0_MS_activate_session_succeed, APN.Huawei.GTPV0_APN_session.GTPv0_MS_act_PDP_context_success_ratio, APN.Huawei.GTPV0_APN_session.GTPv0_MS_deactivate_session_request, APN.Huawei.GTPV0_APN_session.GTPv0_MS_deactivate_session_succeed, APN.Huawei.GTPV0_APN_session._ %_MS_deactivate_session_succeed, APN.Huawei.GTPV1_APN_session.GTPv1_GGSN_deactivate_session_request, APN.Huawei.GTPV1_APN_session.GTPv1_GGSN_deactivate_session_succeed, APN.Huawei.GTPV1_APN_session._ %_GGSN_deactivate_session_succeed, APN.Huawei.GTPV1_APN_session.GTPv1_MS_modify_session_request, APN.Huawei.GTPV1_APN_session.GTPv1_MS_modify_session_succeed, APN.Huawei.GTPV1_APN_session._ %_MS_modify_session_succeed, APN.Huawei.GTPV1_APN_session.GTPv1_GGSN_modify_session_request, APN.Huawei.GTPV1_APN_session.GTPv1_GGSN_modify_session_succeed, APN.Huawei.GTPV1_APN_session._ %_GGSN_modify_session_succeed

9.1.3 APN session by traffic class

Report for the APN-based PDP context, based on user priority (low, medium and high)

Report Feature	Details
Report Tree Branch	System.GPRS.Engineering.CN.Huawei.APN
Primary Object	APN
PDP context per priority	APN.APN_Id, APN.GGSN_Id, APN.Huawei.APN_status.Active_PDP_context (DA), APN.Huawei.APN_session_by_traffic_class.Active_PDP_context_with_low_priority (DA), APN.Huawei.APN_session_by_traffic_class.Active_PDP_context_with_medium_priority, APN.Huawei.APN_session_by_traffic_class.Active_PDP_context_with_hign_priority, APN.Huawei.APN_session_by_traffic_class.Active_conversational_class_PDP_context, APN.Huawei.APN_session_by_traffic_class.Active_streaming_class_PDP_context,

	APN.Huawei.APN_session_by_traffic_class.Active_interactive_class_PDP_context, APN.Huawei.APN_session_by_traffic_class.Active_background_class_PDP_context

9.1.4 APN status report

This report shows the APN status performance.

Report Feature	Details
Report Tree Branch	System.GPRS.Engineering.CN.Huawei.APN
Primary Object	APN
APN status	APN.APN_Id, APN.GGSN_Id, APN.Huawei.GTPV1_APN_session.GTPv1_MS_activate_session_succeed (DA), APN.Huawei.GTPV1_APN_session.GTPv1_MS_launch_second_active_succeed, APN.Huawei.GTPV1_APN_session.GTPv1_Dynamic_address_activate_session_succeed, APN.Huawei.GTPV0_APN_session.GTPv0_MS_activate_session_succeed (DA), APN.Huawei.GTPV0_APN_session.GTPv0_Dynamic_address_activate_session_succeed, APN.Huawei.APN_status.Active_PDP_context (DA), APN.Huawei.APN_status.Max_active_PDP_context, APN.Huawei.APN_status.Average_active_PDP_context, APN.Huawei.APN_status.Gn_Received_Packets, APN.Huawei.APN_status.Gn_Sent_Packets, APN.Huawei.APN_status.IP_addresses_allocated_to_MS, APN.Huawei.APN_status.Total_number_of_DHCP_address_request, APN.Huawei.APN_status.Total_number_of_successful_DHCP_address_request, APN.Huawei.APN_status.Total_number_of_DHCP_address_release

9.1.5 Gn and Gi traffic APN report

This report shows the APNGn and Gi traffic performance.

Report Feature	Details

Report Tree Branch	System.GPRS.Engineering.CN.Huawei.APN
Primary Object	APN
APN Gn and Gi traffic	APN.APN_Id, APN.APN_Name, APN.Huawei.APN_status.Active_PDP_context (DA), APN.Huawei.APN_Transport.APN_Average_packet_throughput (DA), APN.Huawei.APN_Transport.APN_Peak_packet_throughput, APN.Huawei.APN_Transport.APN_UL_transport_success_ratio, APN.Huawei.APN_Transport.APN_DL_transport_success_ratio, APN.Huawei.APN_Transport.APN_Gn_Uplink_packets, APN.Huawei.APN_Transport.APN_Gn_Downlink_packets, APN.Huawei.APN_Transport.APN_Gi_Uplink_packets, APN.Huawei.APN_Transport.APN_Gi_Downlink_packets, APN.Huawei.APN_Transport.APN_redirect_packets, APN.Huawei.APN_Transport.APN_source_address_invalid_packets, APN.Huawei.APN_Transport.APN_destination_address_invalid_packets

9.1.6 PDP context status graph

This graph shows the System resource for a selected APN. The display consists of three graphs for the selected day.

Report Feature	Details
Report Tree Branch	System.GPRS.Engineering.CN.Huawei.APN
Primary Object	APN
Activated PDP in GGSN	APN.Huawei.APN_status.Active_PDP_context, APN.Huawei.APN_status.Max_active_PDP_context
Active PDP	APN.Huawei.APN_status.Average_active_PDP_context
Gn Packets	APN.Huawei.APN_status.Gn_Received_Packets, APN.Huawei.APN_status.Gn_Sent_Packets

9.2 GGSN Reports.

This section shows reports for the GGSN object.

- Basic session by background class report
- Basic session by conversational class report
- Basic session by interactive class report
- Basic session by streaming class report
- Basic session overview by traffic class report
- Basic session report
- Basic sessions graph

- CDRs report
- Gn and Gi traffic report
- GTP by traffic class report
- Gy interface report
- Intelligent service graph
- IP data by traffic class report
- Layer 7 parser report
- Sessions per QoS report
- Traffic throughput graph

9.2.1 Basic session by background class report

Basic session by background class report

Report Feature	Details
Report Tree Branch	System.GPRS.Engineering.CN.Huawei.GGSN
Primary Object	GGSN
Basic session by background class report	GGSN.GGSN_Id, GGSN.GGSN_Name, GGSN.Huawei.Basic_session.PDP_context_act, GGSN.Huawei.Basic_session.PDP_context_act_fail, GGSN.Huawei.Basic_session.PDP_context_act_success_ratio (DA), GGSN.Huawei.Basic_session_by_traffic_class.Background_class_PDP_context_act, GGSN.Huawei.Basic_session_by_traffic_class.Background_class_PDP_context_act_succ, GGSN.Huawei.Basic_session_by_traffic_class._%_Background_class_PDP_context_act_succ_with_low_priority, GGSN.Huawei.Basic_session_by_traffic_class._%_Background_class_PDP_context_act_succ_with_mid_priority, GGSN.Huawei.Basic_session_by_traffic_class._%_Background_class_PDP_context_act_succ_with_high_priority, GGSN.Huawei.Basic_session_by_traffic_class.Background_class_PDP_context_act_with_low_priority, GGSN.Huawei.Basic_session_by_traffic_class.Background_class_PDP_context_act_with_mid_priority, GGSN.Huawei.Basic_session_by_traffic_class.Background_class_PDP_context_act_with_high_priority, GGSN.Huawei.Basic_session_by_traffic_class.Background_class_PDP_context_act_succ_with_low_priority, GGSN.Huawei.Basic_session_by_traffic_class.Background_class_PD

	P_context_act_succ_with_mid_priority, GGSN.Huawei.Basic_session_by_traffic_class.Background_class_PDP_context_act_succ_with_high_priority

9.2.2 Basic session by conversational class report

Basic session by conversational class report

Report Feature	Details
Report Tree Branch	System.GPRS.Engineering.CN.Huawei.GGSN
Primary Object	GGSN
Basic session by conversational class report	GGSN.GGSN_Id, GGSN.GGSN_Name, GGSN.Huawei.Basic_session.PDP_context_act, GGSN.Huawei.Basic_session.PDP_context_act_fail, GGSN.Huawei.Basic_session.PDP_context_act_success_ratio, GGSN.Huawei.Basic_session_by_traffic_class.Conversational_class_PDP_context_act, GGSN.Huawei.Basic_session_by_traffic_class.Conversational_class_PDP_context_act_succ, GGSN.Huawei.Basic_session_by_traffic_class._%_Conversational_class_PDP_context_act_succ_with_low_priority, GGSN.Huawei.Basic_session_by_traffic_class._%_Conversational_class_PDP_context_act_succ_with_mid_priority, GGSN.Huawei.Basic_session_by_traffic_class._%_Conversational_class_PDP_context_act_succ_with_high_priority, GGSN.Huawei.Basic_session_by_traffic_class.Conversational_class_PDP_context_act_with_low_priority, GGSN.Huawei.Basic_session_by_traffic_class.Conversational_class_PDP_context_act_with_mid_priority, GGSN.Huawei.Basic_session_by_traffic_class.Conversational_class_PDP_context_act_with_high_priority, GGSN.Huawei.Basic_session_by_traffic_class.Conversational_class_PDP_context_act_succ_with_low_priority, GGSN.Huawei.Basic_session_by_traffic_class.Conversational_class_PDP_context_act_succ_with_mid_priority, GGSN.Huawei.Basic_session_by_traffic_class.Conversational_class_PDP_context_act_succ_with_high_priority

9.2.3 Basic session by interactive class report

Basic session by interactive class report

Report Feature	Details

Report Tree Branch	System.GPRS.Engineering.CN.Huawei.GGSN
Primary Object	GGSN
Basic session by interactive class report	GGSN.GGSN_Id, GGSN.GGSN_Name, GGSN.Huawei.Basic_session.PDP_context_act, GGSN.Huawei.Basic_session.PDP_context_act_fail, GGSN.Huawei.Basic_session.PDP_context_act_success_ratio, GGSN.Huawei.Basic_session_by_traffic_class.Interactive_class_PDP_context_act, GGSN.Huawei.Basic_session_by_traffic_class.Interactive_class_PDP_context_act_succ, GGSN.Huawei.Basic_session_by_traffic_class._%_Interactive_class_PDP_context_act_succ_with_low_priority, GGSN.Huawei.Basic_session_by_traffic_class._%_Interactive_class_PDP_context_act_succ_with_mid_priority, GGSN.Huawei.Basic_session_by_traffic_class._%_Interactive_class_PDP_context_act_succ_with_high_priority, GGSN.Huawei.Basic_session_by_traffic_class.Interactive_class_PDP_context_act_with_low_priority, GGSN.Huawei.Basic_session_by_traffic_class.Interactive_class_PDP_context_act_with_mid_priority, GGSN.Huawei.Basic_session_by_traffic_class.Interactive_class_PDP_context_act_with_high_priority, GGSN.Huawei.Basic_session_by_traffic_class.Interactive_class_PDP_context_act_succ_with_low_priority, GGSN.Huawei.Basic_session_by_traffic_class.Interactive_class_PDP_context_act_succ_with_mid_priority, GGSN.Huawei.Basic_session_by_traffic_class.Interactive_class_PDP_context_act_succ_with_high_priority

9.2.4 Basic session by streaming class report

Basic session by streaming class report

Report Feature	Details
Report Tree Branch	System.GPRS.Engineering.CN.Huawei.GGSN
Primary Object	GGSN
Basic session by streaming class report	GGSN.GGSN_Id, GGSN.GGSN_Name, GGSN.Huawei.Basic_session.PDP_context_act,

	GGSN.Huawei.Basic_session.PDP_context_act_fail, GGSN.Huawei.Basic_session.PDP_context_act_success_ratio, GGSN.Huawei.Basic_session_by_traffic_class.Streaming_class_PDP_context_act, GGSN.Huawei.Basic_session_by_traffic_class.Streaming_class_PDP_context_act_succ, GGSN.Huawei.Basic_session_by_traffic_class._%_Streaming_class_PDP_context_act_succ_with_low_priority, GGSN.Huawei.Basic_session_by_traffic_class._%_Streaming_class_PDP_context_act_succ_with_mid_priority, GGSN.Huawei.Basic_session_by_traffic_class._%_Streaming_class_PDP_context_act_succ_with_high_priority, GGSN.Huawei.Basic_session_by_traffic_class.Streaming_class_PDP_context_act_with_low_priority, GGSN.Huawei.Basic_session_by_traffic_class.Streaming_class_PDP_context_act_with_mid_priority, GGSN.Huawei.Basic_session_by_traffic_class.Streaming_class_PDP_context_act_with_high_priority, GGSN.Huawei.Basic_session_by_traffic_class.Streaming_class_PDP_context_act_succ_with_low_priority, GGSN.Huawei.Basic_session_by_traffic_class.Streaming_class_PDP_context_act_succ_with_mid_priority, GGSN.Huawei.Basic_session_by_traffic_class.Streaming_class_PDP_context_act_succ_with_high_priority

9.2.5 Basic session overview by traffic class report

Basic session by traffic class report

Report Feature	Details
Report Tree Branch	System.GPRS.Engineering.CN.Huawei.GGSN
Primary Object	GGSN
PDP context based on traffic class	GGSN.GGSN_Id, GGSN.GGSN_Name, GGSN.Huawei.Basic_session_by_traffic_class.Conversational_class_PDP_context_act, GGSN.Huawei.Basic_session_by_traffic_class.Interactive_class_PDP_context_act, GGSN.Huawei.Basic_session_by_traffic_class.Streaming_class_PDP_context_act, GGSN.Huawei.Basic_session_by_traffic_class.Background_class_PDP_context_act, GGSN.Huawei.Basic_session_by_traffic_class.Conversational_class_PDP_context_act_succ, GGSN.Huawei.Basic_session_by_traffic_class.Interactive_class_PDP_context_act_succ,

	GGSN.Huawei.Basic_session_by_traffic_class.Streaming_class_PDP_context_act_succ, GGSN.Huawei.Basic_session_by_traffic_class.Background_class_PDP_context_act_succ

9.2.6 Basic session report

This report shows the GGSN basic session performance.

Report Feature	Details
Report Tree Branch	System.GPRS.Engineering.CN.Huawei.GGSN
Primary Object	GGSN
GGSN basic session	GGSN.GGSN_Id, GGSN.GGSN_Name, GGSN.Huawei.Basic_session.Avg_act_PDP_context (DA), GGSN.Huawei.Basic_session.PDP_context_act, GGSN.Huawei.Basic_session.PDP_context_act_success, GGSN.Huawei.Basic_session.PDP_context_act_fail, GGSN.Huawei.Basic_session.PDP_context_act_success_ratio, GGSN.Huawei.Basic_session.PDP_context_deact, GGSN.Huawei.Basic_session.PDP_context_deact_success, GGSN.Huawei.Basic_session._%_Successful_PDP_deactivation, GGSN.Huawei.Basic_session.GGSN_Received_Packets, GGSN.Huawei.Basic_session.GGSN_Sent_Packets, GGSN.Huawei.Basic_session.GGSN_Received_SM_Packets, GGSN.Huawei.Basic_session.GGSN_Sent_SM_Packets, GGSN.Huawei.Basic_session.GGSN_received_Path_Manager_Packets, GGSN.Huawei.Basic_session.GGSN_Sent_Path_Manager_Packets

9.2.7 Basic sessions graph

This graph shows the basic sessions for a selected GGSN. The display consists of three graphs for the selected day.

Report Feature	Details
Report Tree Branch	System.GPRS.Engineering.CN.Huawei.GGSN
Primary Object	GGSN
Average PDP activated	GGSN.Huawei.Basic_session.Avg_act_PDP_context,

	GGSN.Huawei.Basic_session.PDP_context_act_success_ratio
PDP activation	GGSN.Huawei.Basic_session.PDP_context_act_success, GGSN.Huawei.Basic_session.PDP_context_act_fail_by_optional_IE_incorrect
Packets traffic	GGSN.Huawei.Basic_session.GGSN_Received_Packets, GGSN.Huawei.Basic_session.GGSN_Sent_Packets

9.2.8 CDRs report

This report shows the GGSN CDRs performance.

Report Feature	Details
Report Tree Branch	System.GPRS.Engineering.CN.Huawei.GGSN
Primary Object	GGSN
GGSN CDRs	GGSN.GGSN_Id, GGSN.GGSN_Name, GGSN.Huawei.G_CDR.CDRs_create_success (DA), GGSN.Huawei.G_CDR.CDRs_create_fault, GGSN.Huawei.G_CDR._%_CDRs_create_fault, GGSN.Huawei.G_CDR.Access_points_CDRs_being_collected, GGSN.Huawei.G_CDR.Total_number_of_CDRs_opened, GGSN.Huawei.G_CDR.Total_number_of_containers_created, GGSN.Huawei.G_CDR.Currently_opened_charging_containers

9.2.9 Gn and Gi traffic report

This report shows the Gn and Gi traffic performance.

Report Feature	Details
Report Tree Branch	System.GPRS.Engineering.CN.Huawei.GGSN
Primary Object	GGSN
Gn and Gi traffic	GGSN.GGSN_Id, GGSN.GGSN_Name, GGSN.Huawei.Transport._%_Device_Uplink_transport_success, GGSN.Huawei.Transport._%_Device_Downlink_transport_success, GGSN.Huawei.Transport.Avg_packet_throughput (DA), GGSN.Huawei.Transport.Peak_packet_throughput, GGSN.Huawei.Transport.Gn_Uplink_Average_Packet_Throughput, GGSN.Huawei.Transport.Gn_downlink_Average_Packet_Throughput, GGSN.Huawei.Transport.Gn_Uplink_packets, GGSN.Huawei.Transport.Gn_Downlink_packets, GGSN.Huawei.Transport.Gn_uplink_PPP_packets,

	GGSN.Huawei.Transport.Gn_downlink_PPP_packets, GGSN.Huawei.Transport.Gi_Uplink_Average_Packet_Throughput, GGSN.Huawei.Transport.Gi_downlink_Average_Packet_Throughput, GGSN.Huawei.Transport.Gi_Uplink_packets, GGSN.Huawei.Transport.Gi_Downlink_packets, GGSN.Huawei.Transport.Gi_downlink_L2TP_packets, GGSN.Huawei.Transport.Gi_uplink_L2TP_packets

9.2.10 GTP by traffic class report

Incoming and Outgoing GTP signal and data by traffic class report

Report Feature	Details
Report Tree Branch	System.GPRS.Engineering.CN.Huawei.GGSN
Primary Object	GGSN
GTP by traffic class report	GGSN.GGSN_Id, GGSN.GGSN_Name, GGSN.Huawei.GTP_signal_by_traffic_class.Conversational_class_incoming_GTP_signalling_packets (DA), GGSN.Huawei.GTP_signal_by_traffic_class.Interactive_class_incoming_GTP_signalling_packets, GGSN.Huawei.GTP_signal_by_traffic_class.Streaming_class_incoming_GTP_signalling_packets, GGSN.Huawei.GTP_signal_by_traffic_class.Background_class_incoming_GTP_signalling_packets, GGSN.Huawei.GTP_data_by_traffic_class.Conversational_class_incoming_GTP_data_packets, GGSN.Huawei.GTP_data_by_traffic_class.Interactive_class_incoming_GTP_data_packets, GGSN.Huawei.GTP_data_by_traffic_class.Streaming_class_incoming_GTP_data_packets, GGSN.Huawei.GTP_data_by_traffic_class.Background_class_incoming_GTP_data_packets, GGSN.Huawei.GTP_signal_by_traffic_class.Conversational_class_outgoing_GTP_signalling_packets (DA), GGSN.Huawei.GTP_signal_by_traffic_class.Interactive_class_outgoing_GTP_signalling_packets, GGSN.Huawei.GTP_signal_by_traffic_class.Streaming_class_outgoing_GTP_signalling_packets, GGSN.Huawei.GTP_signal_by_traffic_class.Background_class_outgo

	ing_GTP_signalling_packets, GGSN.Huawei.GTP_data_by_traffic_class.Conversational_class_outgoing_GTP_data_packets, GGSN.Huawei.GTP_data_by_traffic_class.Interactive_class_outgoing_GTP_data_packets, GGSN.Huawei.GTP_data_by_traffic_class.Streaming_class_outgoing_GTP_data_packets, GGSN.Huawei.GTP_data_by_traffic_class.Background_class_outgoing_GTP_data_packets

9.2.11 Gy interface report

Gy interface report

Report Feature	Details
Report Tree Branch	System.GPRS.Engineering.CN.Huawei.GGSN
Primary Object	GGSN
Gy interface report	GGSN.GGSN_Id, GGSN.GGSN_Name, GGSN.Huawei.Gy_interface.Gy_average_packets_throughput (DA), GGSN.Huawei.Gy_interface.Gy_peak_packets_throughput, GGSN.Huawei.Gy_interface.Gy_peak_throughput, GGSN.Huawei.Gy_interface.Gy_downlink_packets, GGSN.Huawei.Gy_interface.Gy_uplink_packets, GGSN.Huawei.Gy_interface.Gy_downlink_Kbytes, GGSN.Huawei.Gy_interface.Gy_uplink_Kbytes

9.2.12 Intelligent service graph

This graph shows the Intelligent service for a selected GGSN. The display consists of three graphs for the selected day.

Report Feature	Details
Report Tree Branch	System.GPRS.Engineering.CN.Huawei.GGSN
Primary Object	GGSN
IN PDP activation	GGSN.Huawei.Intelligent_service.Intelligent_PDP_act_requests, GGSN.Huawei.Intelligent_service.Intelligent_PDP_act_successes
IN PDP deactivation	GGSN.Huawei.Intelligent_service._ %_PDP_deact_successes_initiated_GGSN, GGSN.Huawei.Intelligent_service._ %_PDP_deact_successes_initiated_SCP

PDP activated	GGSN.Huawei.Basic_session.Avg_act_PDP_context, GGSN.Huawei.Intelligent_service.Avg_act_IN_PDP_contexts

9.2.13 IP data by traffic class report

IP data by traffic class report

Report Feature	Details
Report Tree Branch	System.GPRS.Engineering.CN.Huawei.GGSN
Primary Object	GGSN
IP data report	GGSN.GGSN_Id, GGSN.GGSN_Name, GGSN.Huawei.IP_data_by_traffic_class.Conversational_class_incoming_IP_data_Packets (DA), GGSN.Huawei.IP_data_by_traffic_class.Interactive_class_incoming_IP_data_Packets, GGSN.Huawei.IP_data_by_traffic_class.Streaming_class_incoming_IP_data_Packets, GGSN.Huawei.IP_data_by_traffic_class.Background_class_incoming_IP_data_Packets, GGSN.Huawei.IP_data_by_traffic_class.Conversational_class_outgoing_IP_data_Packets, GGSN.Huawei.IP_data_by_traffic_class.Interactive_class_outgoing_IP_data_Packets, GGSN.Huawei.IP_data_by_traffic_class.Streaming_class_outgoing_IP_data_Packets, GGSN.Huawei.IP_data_by_traffic_class.Background_class_outgoing_IP_data_Packets

9.2.14 Layer 7 parser report

Layer 7 parser report

Report Feature	Details
Report Tree Branch	System.GPRS.Engineering.CN.Huawei.GGSN
Primary Object	GGSN
L7 parser report	GGSN.GGSN_Id, GGSN.GGSN_Name, GGSN.Huawei.Layer7_parser.L7_parser_average_packet_throughput

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	(DA), GGSN.Huawei.Layer7_parser.L7_parser_downlink_packets, GGSN.Huawei.Layer7_parser.L7_parser_uplink_packets, GGSN.Huawei.Layer7_parser.L7_parser_uplink_error_packets, GGSN.Huawei.Layer7_parser.L7_parser_HTTP_Downlink_packets, GGSN.Huawei.Layer7_parser.L7_parser_HTTP_uplink_packets, GGSN.Huawei.Layer7_parser.L7_parser_WAP1_X_downlink_packets, GGSN.Huawei.Layer7_parser.L7_parser_WAP1_X_uplink_packets, GGSN.Huawei.Layer7_parser.L7_parser_WAP2_0_downlink_packets, GGSN.Huawei.Layer7_parser.L7_parser_WAP2_0_uplink_packets, GGSN.Huawei.Layer7_parser.L7_parser_RTSP_downlink_packets, GGSN.Huawei.Layer7_parser.L7_parser_RTSP_uplink_packets, GGSN.Huawei.Layer7_parser.L7_parser_FTP_downlink_packets, GGSN.Huawei.Layer7_parser.L7_parser_FTP_uplink_packets, GGSN.Huawei.Layer7_parser.L7_parser_P2P_downlink_Kbytes, GGSN.Huawei.Layer7_parser.L7_parser_P2P_uplink_Kbytes, GGSN.Huawei.Layer7_parser.L7_parser_VOIP_downlink_Kbytes, GGSN.Huawei.Layer7_parser.L7_parser_VOIP_uplink_Kbytes

9.2.15 Sessions per QoS report

This report shows the GGSN session per QoS performance.

Report Feature	Details
Report Tree Branch	System.GPRS.Engineering.CN.Huawei.GGSN
Primary Object	GGSN
GGSN session per QoS	GGSN.GGSN_Id, GGSN.GGSN_Name, GGSN.Huawei.Basic_session.Avg_act_PDP_context (DA), GGSN.Huawei.Basic_session.PDP_context_act_success (DA), GGSN.Huawei.Basic_session.PDP_context_deact_success, GGSN.Huawei.Basic_session.Current_number_active_GTPV0_PDP_context, GGSN.Huawei.Basic_session.Current_number_active_GTPV1_PDP_context, GGSN.Huawei.Basic_session.Current_PDP_contexts_with_GGSN_assigned_QoS, GGSN.Huawei.Basic_session.Conversational_class_PDP_context, GGSN.Huawei.Basic_session.Streaming_class_context, GGSN.Huawei.Basic_session.Interactive_class_PDP_context, GGSN.Huawei.Basic_session.Background_class_PDP_context

9.2.16 Traffic throughput graph

This graph shows the traffic throughput for a selected GGSN. The display consists of two graphs for the selected day.

Report Feature	Details
Report Tree Branch	System.GPRS.Engineering.CN.Huawei.GGSN
Primary Object	GGSN
Gi link average packet throughput	GGSN.Huawei.Transport.Gi_Uplink_Average_Packet_Throughput, GGSN.Huawei.Transport.Gi_downlink_Average_Packet_Throughput
Gn link average packet throughput	GGSN.Huawei.Transport.Gi_Uplink_Average_Packet_Throughput, GGSN.Huawei.Transport.Gi_downlink_Average_Packet_Throughput

9.3 GGSN_Board Reports.

This section shows reports for the GGSN_Board object.

- Board system resource report
- System resource graph

9.3.1 Board system resource report

This report shows the GGSN board system resource performance.

Report Feature	Details
Report Tree Branch	System.GPRS.Engineering.CN.Huawei.GGSN_Board
Primary Object	GGSN_Board
GGSN board system resource	GGSN_Board.GGSN_Board_Id, GGSN_Board.GGSN_Id, GGSN_Board.Huawei.System_resource.Avg_CPU_occupation_ratio (DA), GGSN_Board.Huawei.System_resource.Peak_CPU_occupation_ratio, GGSN_Board.Huawei.System_resource.Avg_memory_utilization_ratio, GGSN_Board.Huawei.System_resource.Avg_harddisk_utilization_ratio

9.3.2 System resource graph

This graph shows the System resource for a selected GGSN Board. The display consists of three graphs for the selected day.

Report Feature	Details
Report Tree Branch	System.GPRS.Engineering.CN.Huawei.GGSN_Board
Primary Object	GGSN_Board
CPU utilisation	GGSN_Board.Huawei.System_resource.Avg_CPU_occupation_ratio, GGSN_Board.Huawei.System_resource.Peak_CPU_occupation_ratio
Harddisk utilisation	GGSN_Board.Huawei.System_resource.Avg_harddisk_utilization_ratio
Memory utilisation	GGSN_Board.Huawei.System_resource.Avg_memory_utilization_ratio

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