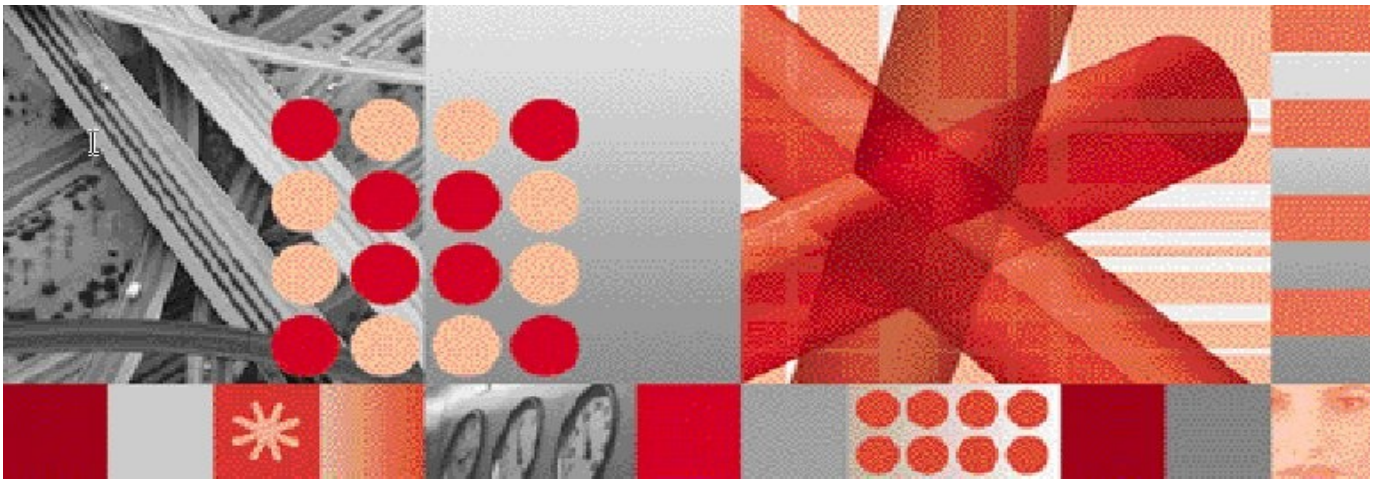
Tivoli Netcool® Performance Manager for Wireless



GPRS_Huawei_SGSN_V900R010C01 Product Requirements

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1 Change History

Issue	Date	Author	Comments
1.0	19 Oct 2010	IBM	Fixpack Released

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2 Outstanding Issues

Number	Date	Description	Planned Resolution
N/A			

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 SGSN_ID & "/" & M117440598.APN	
M117440598	APN.Huawei.GPRS.Gb_Mode_PDP_Context_Activation_with_APN
M117440607	APN.Huawei.GPRS.Iu_Mode_PDP_Context_Activation_with_APN
M117440650	APN.Huawei.GPRS.Gb_Mode_SM_Resource_with_APN
M117440651	APN.Huawei.GPRS.Iu_Mode_SM_Resource_with_APN
M117440652	APN.Huawei.GPRS.Data_packet_with_APN
ATM_Port - Mapped with SGSN_ID & "/" & M117440655.SRN & "-" & SN & "-" & PORT	
M117440655	ATM_Port.Huawei.GPRS.ATM_SGSN_port
BFD_Session - Mapped with SGSN_ID & "/" & M117440715.BFD_INDEX	
M117440715	BFD_Session.Huawei.GPRS.BFD_session
BSS_NSE - Mapped with SGSN_ID & "/" & M117440526.NSEI	
M117440526	BSS_NSE.Huawei.GPRS.Gb_Traffic_with_BSS
M117440558	BSS_NSE.Huawei.GPRS.Attach_with_BSS
M117440559	BSS_NSE.Huawei.GPRS.Intra_SGSN_RAU_with_BSS
M117440560	BSS_NSE.Huawei.GPRS.Inter_SGSN_RAU_with_BSS

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M117440561	BSS_NSE.Huawei.GPRS.Radio_Resource_with_BSS
M117440596	BSS_NSE.Huawei.GPRS.PDP_Context_Activation_with_BSS
M117440597	BSS_NSE.Huawei.GPRS.SM_Resource_with_BSS
Cell - Mapped with SGSN_ID & "/" & M117440527.Cell_Id	
M117440527	Cell.Huawei.GPRS.BSSGP_with_Cell
M117440568	Cell.Huawei.GPRS.Attach_with_Cell
M117440569	Cell.Huawei.GPRS.Intra_SGSN_RAU_with_Cell
M117440570	Cell.Huawei.GPRS.Inter_SGSN_RAU_with_Cell
M117440599	Cell.Huawei.GPRS.Gb_Mode_PDP_Context_Activation_with_Cell
M117440682	Cell.Huawei.GPRS.Gb_cell_update
CG_IP_Port - Mapped with M117440513.CG_IP & "/" & GTP_bearing_protocol & "-" & Port_No	
M117440513	CG_IP_Port.Huawei.GPRS.Ga_Interface
DNS - Mapped with SGSN_ID & "/" & M117440688.IP	
M117440688	DNS.Huawei.GPRS.DNS_inquiries
Gb_Fwd_Channel - Mapped with SGSN_ID & "/" & M117440685.CHANNEL_INDEX	
M117440685	Gb_Fwd_Channel.Huawei.GPRS.Gb_fwd_channel
GGSN_IP - Mapped with SGSN_ID & "/" & M117440667.GGSNIP	
M117440667	GGSN_IP.Huawei.GPRS.Gb_mode_PDP_context_activation_with_IP_address
M117440668	GGSN_IP.Huawei.GPRS.Iu_mode_PDP_context_activation_with_IP_address
GnGp_IPV4 - Mapped with SGSN_ID & "/" & M117440541.GnGp_IP	
M117440541	GnGp_IPV4.Huawei.GPRS.Gn_Traffic_with_Specific_Gn_IP
M117440632	GnGp_IPV4.Huawei.GPRS.IP_Traffic_with_specific_Gn_IP
GnGp_IPV6 - Mapped with SGSN_ID & "/" & M117440653.IPV6	
M117440653	GnGp_IPV6.Huawei.GPRS.Gn_Traffic_with_Specific_Gn_IPV6
M117440654	GnGp_IPV6.Huawei.GPRS.IP_Traffic_with_Specific_Gn_IPV6
Heartbeat_Channel - Mapped with SGSN_ID & "/" & M117440684.SGSNINDEX & "-" & CHUNNELINDEX	
M117440684	Heartbeat_Channel.Huawei.GPRS.Gb_heartbeat_channel

IMSI - Mapped with SGSN_ID & "/" & M117440514.IMSI	
M117440514	IMSI.Huawei.GPRS.CDR_with_Specific_User
M117440724	IMSI.Huawei.GPRS.Traffic_per_sub
IP_Security - Mapped with SGSN_ID & "/" & M117440722.SRN & "-" & SN	
M117440722	IP_Security.Huawei.GPRS.GTPC_IPSEC
M3UA_Dest - Mapped with SGSN_ID & "/" & M117440658.index	
M117440658	M3UA_Dest.Huawei.GPRS.M3UA_DE
M3UA_Link - Mapped with SGSN_ID & "/" & M117440656.SRN & "/" & SN & "-" & LN_ID	
M117440656	M3UA_Link.Huawei.GPRS.M3UA_link
M3UA_LinkSet - Mapped with SGSN_ID & "/" & M117440657.index	
M117440657	M3UA_LinkSet.Huawei.GPRS.M3UA_link_set
MTP3_Link - Mapped with SGSN_ID & "/" & M117440623.LSX & "/" & SRN & "-" & SN & "-" & LNK	
M117440623	MTP3_Link.Huawei.GPRS.MTP3_link
MTP3_LinkPoint - Mapped with SGSN_ID & "/" & M117440625.DPX	
M117440625	MTP3_LinkPoint.Huawei.GPRS.MTP3_DPC
MTP3_LinkSet - Mapped with SGSN_ID & "/" & M117440624.LSX	
M117440624	MTP3_LinkSet.Huawei.GPRS.MTP3_link_set
MTP3_Route - Mapped with SGSN_ID & "/" & M117440719.LABEL &"-" & LSX	
M117440719	MTP3_Route.Huawei.GPRS.MTP3_route
MTP3B_Link - Mapped with SGSN_ID & "/" & M117440546.LNK	
M117440546	MTP3B_Link.Huawei.GPRS.MTP3B_Link
M117440549	MTP3B_Link.Huawei.GPRS.SAAL_SGSN_link
MTP3B_LinkSet - Mapped with SGSN_ID & "/" & M117440547.LSX	
M117440547	MTP3B_LinkSet.Huawei.GPRS.MTP3B_link_set
MTP3B_Point - Mapped with SGSN_ID & "/" & M117440548.DPX	

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M117440548	MTP3B_Point.Huawei.GPRS.MTP3B_signal_point
MVNO - Mapped with SGSN_ID & "/" & M117440633.MVNO	
M117440633	MVNO.Huawei.GPRS.Gb_Mode_Attach_with_MVNO
M117440634	MVNO.Huawei.GPRS.Gb_Mode_Intra_SGSN_RAU_with_MVNO
M117440635	MVNO.Huawei.GPRS.Gb_Mode_Inter_SGSN_RAU_with_MVNO
M117440636	MVNO.Huawei.GPRS.Gb_Mode_Radio_Resource_with_MVNO
M117440637	MVNO.Huawei.GPRS.Iu_Mode_Attach_with_MVNO
M117440638	MVNO.Huawei.GPRS.Iu_Mode_Intra_SGSN_RAU_with_MVNO
M117440639	MVNO.Huawei.GPRS.Iu_Mode_Inter_SGSN_RAU_with_MVNO
M117440640	MVNO.Huawei.GPRS.Iu_Mode_Radio_Resource_with_MVNO
M117440641	MVNO.Huawei.GPRS.Gb_Mode_PDP_Context_Activation_with_MVNO
M117440642	MVNO.Huawei.GPRS.Gb_Mode_SM_Resource_with_MVNO
M117440643	MVNO.Huawei.GPRS.Iu_Mode_PDP_Context_Activation_with_MVNO
M117440644	MVNO.Huawei.GPRS.Iu_Mode_SM_Resource_with_MVNO
NSE - Mapped with SGSN_ID & "/" & M117440524.NSEI	
M117440524	NSE.Huawei.GPRS.NS_with_Specific_NSE
M117440525	NSE.Huawei.GPRS.BSSGP_with_Specific_NSE
NSVC - Mapped with SGSN_ID & "/" & M117440523.NSVCI	
M117440523	NSVC.Huawei.GPRS.NS_with_Specific_NSVC
NSVC_IP - Mapped with SGSN_ID & "/" & M117440669.NSVCID	
M117440669	NSVC_IP.Huawei.GPRS.NS_with_Specific_IP_NSVC
RNC - Mapped with SGSN_ID & "/" & M117440582.RNCX	
M117440582	RNC.Huawei.GPRS.Relocation_with_RNC
Routing_Area - Mapped with SGSN_ID & "/" & M117440562.LAC & "-" & RAC	
M117440562	Routing_Area.Huawei.GPRS.Gb_Mode_Attach_with_RAI
M117440563	Routing_Area.Huawei.GPRS.Gb_Mode_Detach_with_RAI
M117440564	Routing_Area.Huawei.GPRS.Gb_Mode_Intra_SGSN_RAU_with_RAI

M117440565	Routing_Area.Huawei.GPRS.Gb_Mode_Inter_SGSN_RAU_with_RAI
M117440566	Routing_Area.Huawei.GPRS.Gb_Mode_Paging_with_RAI
M117440567	Routing_Area.Huawei.GPRS.Gb_Mode_Radio_Resource_with_RAI
M117440583	Routing_Area.Huawei.GPRS.Iu_Mode_Attach_with_RAI
M117440584	Routing_Area.Huawei.GPRS.Iu_Mode_Detach_with_RAI
M117440585	Routing_Area.Huawei.GPRS.Iu_Mode_Intra_SGSN_RAU_with_RAI
M117440586	Routing_Area.Huawei.GPRS.Iu_Mode_Inter_SGSN_RAU_with_RAI
M117440587	Routing_Area.Huawei.GPRS.Iu_Mode_Service_Request_with_RAI
M117440588	Routing_Area.Huawei.GPRS.Inter_System_Switch_with_RAI
M117440589	Routing_Area.Huawei.GPRS.Iu_Mode_Paging_with_RAI
M117440590	Routing_Area.Huawei.GPRS.Iu_Mode_Radio_Resource_with_RAI
M117440648	Routing_Area.Huawei.GPRS.Gb_Mode_SM_Resource_with_RAI
M117440649	Routing_Area.Huawei.GPRS.Iu_Mode_SM_Resource_with_RAI
M117440671	Routing_Area.Huawei.GPRS.Specific_Routing_Area_SM_2G
M117440689	Routing_Area.Huawei.GPRS.Specific_Routing_Area_SM_3G
SGSN - Mapped with M117440515.SGSN_ID	
M117440512	SGSN.Huawei.GPRS.SGSN_CDR
M117440515	SGSN.Huawei.GPRS.SGSN_LLC
M117440516	SGSN.Huawei.GPRS.SGSN_SNDCP
M117440517	SGSN.Huawei.GPRS.SGSN_FR
M117440518	SGSN.Huawei.GPRS.SGSN_Compression_Card
M117440519	SGSN.Huawei.GPRS.SGSN_BSSGP
M117440520	SGSN.Huawei.GPRS.SGSN_NS

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M117440521	SGSN.Huawei.GPRS.SGSN_Encryption
M117440522	SGSN.Huawei.GPRS.SGSN_Gb_Resource
M117440528	SGSN.Huawei.GPRS.GTP_Bearer
M117440529	SGSN.Huawei.GPRS.IPSec
M117440530	SGSN.Huawei.GPRS.GTP_Message_Processing
M117440531	SGSN.Huawei.GPRS.SGSN_DNS_Request
M117440532	SGSN.Huawei.GPRS.GTP_System_NTP
M117440533	SGSN.Huawei.GPRS.GTPU_Gn_Interface
M117440534	SGSN.Huawei.GPRS.GTPU_Gp_Interface
M117440535	SGSN.Huawei.GPRS.GTPU_Unknown_Interface
M117440536	SGSN.Huawei.GPRS.GTPU_Bearer
M117440537	SGSN.Huawei.GPRS.GTPU_Data_Packets_Transfer
M117440538	SGSN.Huawei.GPRS.GTPU_Message_Processing
M117440539	SGSN.Huawei.GPRS.GTPU_Data_Packets_Transfer_per_QoS
M117440540	SGSN.Huawei.GPRS.UE_Transfer_Bandwidth
M117440542	SGSN.Huawei.GPRS.RANAP
M117440550	SGSN.Huawei.GPRS.Gb_Mode_L3_MM
M117440551	SGSN.Huawei.GPRS.Gb_Mode_Attach
M117440552	SGSN.Huawei.GPRS.Gb_Mode_Detach
M117440553	SGSN.Huawei.GPRS.Gb_Mode_Intra_SGSN_RAU
M117440554	SGSN.Huawei.GPRS.Gb_Mode_Inter_SGSN_RAU
M117440555	SGSN.Huawei.GPRS.Gb_Mode_Security
M117440556	SGSN.Huawei.GPRS.Gb_Mode_Radio_Resource
M117440557	SGSN.Huawei.GPRS.Gb_Mode_Paging
M117440571	SGSN.Huawei.GPRS.Iu_Mode_L3_MM
M117440572	SGSN.Huawei.GPRS.Iu_Mode_Attach
M117440573	SGSN.Huawei.GPRS.Iu_Mode_Detach
M117440574	SGSN.Huawei.GPRS.Iu_Mode_Intra_SGSN_RAU
M117440575	SGSN.Huawei.GPRS.Iu_Mode_Inter_SGSN_RAU

M117440576	SGSN.Huawei.GPRS.Iu_Mode_Security
M117440577	SGSN.Huawei.GPRS.Iu_Mode_Paging
M117440578	SGSN.Huawei.GPRS.Iu_Mode_Radio_Resource
M117440579	SGSN.Huawei.GPRS.Iu_Mode_Service_Request
M117440580	SGSN.Huawei.GPRS.Inter_System_Switch
M117440581	SGSN.Huawei.GPRS.SGSN_Relocation
M117440591	SGSN.Huawei.GPRS.Gb_Mode_PDP_Context_Activation
M117440592	SGSN.Huawei.GPRS.Gb_Mode_PDP_Context_Deactivation
M117440593	SGSN.Huawei.GPRS.Gb_Mode_PDP_Context_Modification
M117440594	SGSN.Huawei.GPRS.Gb_Mode_SM_L3
M117440595	SGSN.Huawei.GPRS.Gb_Mode_SM_Resource
M117440600	SGSN.Huawei.GPRS.Iu_Mode_PDP_Context_Activation
M117440601	SGSN.Huawei.GPRS.Iu_Mode_PDP_Context_Deactivation
M117440602	SGSN.Huawei.GPRS.Iu_Mode_PDP_Context_Modification
M117440603	SGSN.Huawei.GPRS.Iu_Mode_SM_L3
M117440604	SGSN.Huawei.GPRS.Iu_Mode_PDP_Context_Reserve
M117440605	SGSN.Huawei.GPRS.Iu_Mode_RAB
M117440606	SGSN.Huawei.GPRS.Iu_Mode_SM_Resource
M117440608	SGSN.Huawei.GPRS.BSSAP_Basic_Traffic
M117440609	SGSN.Huawei.GPRS.BSSAP_Signaling_Procedure_Error_and_Timeout
M117440610	SGSN.Huawei.GPRS.MAP_Basic_Traffic
M117440611	SGSN.Huawei.GPRS.MAP_Signaling_Procedure_Error_and_Timeout
M117440612	SGSN.Huawei.GPRS.MAP_Common_Traffic_Procedure_Error
M117440613	SGSN.Huawei.GPRS.MAP_Gc_Message_Transfer_Traffic
M117440614	SGSN.Huawei.GPRS.SCCP_Performance

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M117440615	SGSN.Huawei.GPRS.SCCP_Availability
M117440616	SGSN.Huawei.GPRS.SCCP_Utilization
M117440618	SGSN.Huawei.GPRS.TCAP_Component_Utilization
M117440619	SGSN.Huawei.GPRS.TCAP_Message
M117440620	SGSN.Huawei.GPRS.TCAP_TSL
M117440621	SGSN.Huawei.GPRS.TCAP_CSL
M117440622	SGSN.Huawei.GPRS.MTP_Signalling_Link
M117440627	SGSN.Huawei.GPRS.CAMEL
M117440628	SGSN.Huawei.GPRS.LCS
M117440629	SGSN.Huawei.GPRS.Supplementary_Service
M117440630	SGSN.Huawei.GPRS.SMS_in_Gb
M117440630	SGSN.Huawei.GPRS.SMS_in_Iu
M117440630	SGSN.Huawei.GPRS.SMS
M117440645	SGSN.Huawei.GPRS.Alarms_sent_to_ADMF
M117440646	SGSN.Huawei.GPRS.ADMF_Messages_for_LI_User
M117440647	SGSN.Huawei.GPRS.LI_Messages_Sent
M117440659	SGSN.Huawei.GPRS.Gb_Mode_Service_Handover
M117440660	SGSN.Huawei.GPRS.Iu_Mode_Service_Handover
M117440661	SGSN.Huawei.GPRS.Gb_Mode_User_Access_Reject
M117440662	SGSN.Huawei.GPRS.Iu_Mode_User_Access_Reject
M117440663	SGSN.Huawei.GPRS.Gb_Mode_PDP_Access_Reject
M117440664	SGSN.Huawei.GPRS.Iu_Mode_PDP_Access_Reject
M117440665	SGSN.Huawei.GPRS.UGFU_NS_Transferred_IP_Packet
M117440666	SGSN.Huawei.GPRS.IP_NS
M117440672	SGSN.Huawei.GPRS.MBMS_Broadcast_Session_Start
M117440673	SGSN.Huawei.GPRS.MBMS_Broadcast_Session_Stop
M117440674	SGSN.Huawei.GPRS.MBMS_Broadcast_Bearer_Resource
M117440678	SGSN.Huawei.GPRS.Gb_mode_attach_EDGE_user
M117440679	SGSN.Huawei.GPRS.Gb_mode_PDP_act_EDGE_user

M117440680	SGSN.Huawei.GPRS.Gb_mode_APN_correction
M117440681	SGSN.Huawei.GPRS.Iu_mode_APN_correction
M117440683	SGSN.Huawei.GPRS.Iu_mode_tunnel_SM
M117440716	SGSN.Huawei.GPRS.Dropped_IP_packet
M117440717	SGSN.Huawei.GPRS.Dropped_GTP_packet
SGSN_Board - Mapped with SGSN_ID & "/" & M117440626.SRN & "-" & SN & "-" & BP	
M117440626	SGSN_Board.Huawei.GPRS.SGSN_Resource
M117440631	SGSN_Board.Huawei.GPRS.TCP_IP
M117440712	SGSN_Board.Huawei.GPRS.UGBI_MS_cong_loadshare
M117440718	SGSN_Board.Huawei.GPRS.UGBI_board_traffic
M117440721	SGSN_Board.Huawei.GPRS.UGFU_board_traffic
SGSN_PLMN - Mapped with SGSN_ID & "/" & M117440686.MCC & MNC or SGSN_ID & "/" & M117440687.MCC & MNC	
M117440686	SGSN_PLMN.Huawei.GPRS.Gb_user_per_PLMN
M117440687	SGSN_PLMN.Huawei.GPRS.Iu_user_per_PLMN
SGSN_VLAN - Mapped with SGSN_ID & "/" & M117440675.FN	
M117440675	SGSN_VLAN.Huawei.GPRS.IP_packet_within_special_VLAN
System_Resource - Mapped with SGSN_ID & "/" & M117440617.PROC_ID & "-" & PROC_TYPE & "-" & SN & "-" & SRN	
M117440617	System_Resource.Huawei.GPRS.Process_Resource
UPIU_Port - Mapped with SGSN_ID &"/"& M117440676.SRN &"-"& SN &"-"& PORT	
M117440676	UPIU_Port.Huawei.GPRS.Error_VLAN_within_special_Port
M117440720	UPIU_Port.Huawei.GPRS.Eth_port_stat

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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
- PGM GOMlet

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.

This object is used for Data Availability tracking

Attribute Name	Description	Read-Only?	Time-Tracked?	Mapping	Aggregator
Primary Identifier					
APN_Id	A unique identifier for the APN.	Y		SGSN_ID & "/" & M117440598.APN	
Relationship Attributes					
GGSN_Id	A unique identifier for the GGSN.	Y	Y	No mapping	
Region_Id	Region associated with the APN.	Y	Y	No mapping	
Network_Id	Network associated with the APN.	Y	Y	NETWORK_ID	
Configuration Attributes					
APN_Name	A user friendly name preferably unique for the APN.			SGSN_ID & "/" & M117440598.APN	

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APN_Type	Type of APN.			M117440598.APN	
APN_Version	Hardware/Software version of the APN.			No mapping	
Technology	Technology of the network/element (e.g. GSM, GPRS, UMTS).			"GPRS"	

5.2 ATM_Port details

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

Attribute Name	Description	Read-Only?	Time-Tracked?	Mapping	Aggregator
Primary Identifier					
ATM_Port_Id	A unique identifier for the ATM Port.	Y		SGSN_ID & "/" & M117440655.SRN & "-" & SN & "-" & PORT	
Relationship Attributes					
Region_Id	Region associated with the ATM Port.	Y	Y	lookup("nc_sgsn", "region_id", utime(Day & Starttime,"%d %b %Y %R"), SGSN_ID)	
Network_Id	Network associated with the ATM Port.	Y	Y	NETWORK_ID	
Configuration Attributes					
ATM_Port_Name	A user friendly name preferably unique for the ATM Port.			SGSN_ID & "/" & M117440655.SRN & "-" & SN & "-" & PORT	
Node_Id	A unique identifier for the Node.			SGSN_ID	
ATM_Port_Type	Type of ATM Port.			"Populated by customer"	
ATM_Port_Version	Hardware/Software version of the ATM Port.			"Populated by customer"	
Node_Name	A user friendly name preferably unique for the			lookup("nc_sgsn", "sgsn_name", utime(Day & Starttime,"%d %b	

	Node.			%Y %R"), SGSN_ID)	
Node_Type	Type of the Node.			"SGSN"	
Technology	Technology of the network/element (e.g. GSM, GPRS, UMTS).			"GPRS"	

5.3 BFD_Session details

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

Attribute Name	Description	Read-Only?	Time-Tracked?	Mapping	Aggregator
Primary Identifier					
BFD_Session_Id	Primary identifier of the BFD Session	Y		SGSN_ID & "/" & M117440715.BFD_INDEX	
Relationship Attributes					
SGSN_Id	Identifier of the SGSN	Y	Y	SGSN_ID	
Region_Id	Identifier of the region	Y	Y	lookup("nc_sgsn", "region_id", utime(Day & Starttime,"%d %b %Y %R"), SGSN_ID)	
Network_Id	Identifer of the network	Y	Y	NETWORK_ID	
Configuration Attributes					
BFD_Session_Name	Meaningful name of the BFD session			SGSN_ID & "/" & M117440715.BFD_INDEX	

5.4 BSS_NSE details

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

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

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		?			
Primary Identifier					
BSS_NSE_Id	Primary identifier of the BSSID NSEI	Y		SGSN_ID & "/" & M117440526.NSEI	
Relationship Attributes					
SGSN_Id	Identifier of the SGSN	Y	Y	SGSN_ID	
Region_Id	Identifier of the region	Y	Y	lookup("nc_sgsn", "region_id", utime(Day & Starttime,"%d %b %Y %R"), SGSN_ID)	
Network_Id	Identifier of the network	Y	Y	NETWORK_ID	
Configuration Attributes					
BSS_NSE_Name	Meaningful name of the BSSID NSEI			SGSN_ID & "/" & M117440526.NSEI	

5.5 Cell details

In the network hierarchy, the immediate parents of the Cell object are: PCU, Routing_Area, Registration_Area, BS and LAC.

Attribute Name	Description	Read-Only?	Time-Tracked?	Mapping	Aggregator
Primary Identifier					
Cell_Id	A unique identifier for the Cell.	Y		SGSN_ID & "/" & M117440527.Cell_Id	
Relationship Attributes					
PCU_Id	A unique identifier for the PCU.	Y	Y	No mapping	
NSVC_Id	A unique identifier for the NSVC.	Y	Y	No mapping	
Routing_Area_Id	A unique identifier for the Routing_Area.	Y	Y	No mapping	
SGSN_Id	A unique identifier for the SGSN.	Y	Y	SGSN_ID	

Registration_ Area_Id	A unique identifier for the Registration_Area.	Y	Y	No mapping	
BS_Id	A unique identifier for the BS at which the Cell is located. The BS at which the cell is located.	Y	Y	No mapping	
LAC_Id	The Location Area Code encompassing the Cell.	Y	Y	M117440527.LAC	
BSC_Id	A unique identifier for the BSC.	Y	Y	No mapping	
MSC_Id	A unique identifier for the MSC.	Y	Y	No mapping	
Region_Id	Region associated with the Cell.	Y	Y	lookup("nc_sgsn", "region_id", utime(Day & Starttime,"%d %b %Y %R"), SGSN_ID)	
Network_Id	Network associated with the Cell.	Y	Y	NETWORK_ID	
GPRS_Cell_I d	A unique identifier for the Cell.	Y	Y	No mapping	
UMTS_Cell_I d	A unique identifier for the Cell.	Y	Y	No mapping	
Configuration Attributes					
Cell_Name	A user friendly name preferably unique for the Cell.			No mapping	
Cell_Type	Is the cell omni_directional, or a sector, or micro/pico/macro/umbrel la cell, etc.			No mapping	
Defined_TRX	Number of defined TRX belonging to the cell.			No mapping	
Defined_TCH	Number of defined TCH			No mapping	

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	channels of the Cell.				
Defined_CCH	Number of defined CCH channels for the Cell.			No mapping	
Max_Power	The bs_tx_pwr_max configuration attribute.			No mapping	
Segment_Id	A unique identifier for the Segment.			No mapping	
Cell_Version	Hardware/Software version of the Cell.			No mapping	
Technology	Technology of the network/element (e.g. GSM, GPRS, UMTS).			"GPRS"	
Cell_Description	Description of Cell.			No mapping	
NSVC_CN_Id	A unique identifier for the NSVC CN.			No mapping	
BVC_Id	A unique identifier for the BVC.			No mapping	
Defined_PDCH	Designated Packet Data Channel.			No mapping	
Dedicated_PDCH	Dedicated Packet Data Channel.			No mapping	
UTRAN_Absolute_Radio_Freq_UL	UL UTRAN absolute Radio Frequency Channel number.			No mapping	
UTRAN_Absolute_Radio_Freq_DL	DL UTRAN absolute Radio Frequency Channel number.			No mapping	
Primary_Scrambling_Code	Primary DL scrambling code.			No mapping	
Primary_Common_Pilot_Ch_Power	Primary CPICH channel power.			No mapping	
Primary_Sync_Ch_Power	Primary synchronisation channel power, DL.			No mapping	
Secondary_Sy	Secondary			No mapping	

nc_Ch_Power	synchronisation channel power, DL.				
BCH_Power	Broadcast channel power.			No mapping	

5.6 CG_IP_Port details

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

Attribute Name	Description	Read-Only?	Time-Tracked?	Mapping	Aggregator
Primary Identifier					
CG_IP_Port_Id	Primary identifier of the Charging Gateway IP address	Y		M117440513.CG_IP & "/" & GTP_bearing_protocol & "-" & Port_No	
Relationship Attributes					
Region_Id	Identifier of the region	Y	Y	"Populated by customer"	
Network_Id	Identifier of the network	Y	Y	NETWORK_ID	
Configuration Attributes					
CG_IP_Port_Name	Meaningful name of the CG IP			M117440513.CG_IP & "/" & GTP_bearing_protocol & "-" & Port_No	
CG_IP_Id	Identifier of the Charging Gateway IP Address			M117440513.CG_IP	
GTP_bearing_protocol	GTP bearing protocol			M117440513.GTP_bearing_protocol	

5.7 DNS details

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

Attribute	Description	Read	Time-	Mapping	Aggrega

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Name		- Only ?	Tracked?		tor
Primary Identifier					
DNS_Id	A unique identifier for the DNS.	Y		SGSN_ID & "/" & M117440688.IP	
Relationship Attributes					
Region_Id	A unique identifier for the DNS.	Y	Y	lookup("nc_sgsn", "region_id", utime(Day & Starttime,"%d %b %Y %R"), SGSN_ID)	
Network_Id	Network associated with the DNS.	Y	Y	NETWORK_ID	
Configuration Attributes					
DNS_Name	A user friendly name preferably unique for the DNS.			SGSN_ID & "/" & M117440688.IP	
DNS_Version	Hardware/Software version of the DNS.			No mapping	
Technology	Technology of the network/element (e.g. GSM, GPRS, UMTS).			"GPRS"	

5.8 Gb_Fwd_Channel details

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

Attribute Name	Description	Read - Only ?	Time-Tracked?	Mapping	Aggregator
Primary Identifier					
Gb_Fwd_Channel_Id	Primary identifer of the Gb Forward Channel	Y		SGSN_ID & "/" & M117440685.CHANNEL_INDEX	
Relationship Attributes					
SGSN_Id	Identifier of the SGSN	Y	Y	SGSN_ID	
Region_Id	Identifier of the region	Y	Y	lookup("nc_sgsn", "region_id",	

				utime(Day & Starttime,"%d %b %Y %R"), SGSN_ID)	
Network_Id	Identifier of the network	Y	Y	NETWORK_ID	
Configuration Attributes					
Gb_Fwd_Channel_Name	Meaningful name of the Gb Forward Channel			SGSN_ID & "/" & M117440685.CHANNEL_INDEX	

5.9 GGSN_IP details

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

Attribute Name	Description	Read-Only?	Time-Tracked?	Mapping	Aggregator
Primary Identifier					
GGSN_IP_Id	Primary identifier of the GGSN IP address	Y		SGSN_ID & "/" & M117440667.GGSNIP	
Relationship Attributes					
GGSN_Id	Identifier of the GGSN	Y	Y	No mapping	
Region_Id	Identifier of the region	Y	Y	lookup("nc_sgsn", "region_id", utime(Day & Starttime,"%d %b %Y %R"), SGSN_ID)	
Network_Id	Identifier of the network	Y	Y	NETWORK_ID	
Configuration Attributes					
GGSN_IP_Name	Meaningful name of the GGSN IP			SGSN_ID & "/" & M117440667.GGSNIP	
Technology	Technology of the SGSN			"GPRS"	

5.10 GnGp_IPV4 details

In the network hierarchy, the immediate parent of the GnGp_IPV4 object is SGSN.

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Attribute Name	Description	Read-Only?	Time-Tracked?	Mapping	Aggregator
Primary Identifier					
GnGp_IPV4_Id	Primary identifier of the Gn Gp IP address	Y		SGSN_ID & "/" & M117440541.GnGp_IP	
Relationship Attributes					
SGSN_Id	Identifier of the SGSN	Y	Y	SGSN_ID	
Region_Id	Identifier of the region	Y	Y	lookup("nc_sgsn", "region_id", utime(Day & Starttime,"%d %b %Y %R"), SGSN_ID)	
Network_Id	Identifier of the Network	Y	Y	NETWORK_ID	
Configuration Attributes					
GnGp_IPV4_Name	Meaningful name of the Gn Gp IP address			SGSN_ID & "/" & M117440541.GnGp_IP	

5.11 GnGp_IPV6 details

In the network hierarchy, the immediate parent of the GnGp_IPV6 object is SGSN.

Attribute Name	Description	Read-Only?	Time-Tracked?	Mapping	Aggregator
Primary Identifier					
GnGp_IPV6_Id	Primary identifier of the GnGp IP Address	Y		SGSN_ID & "/" & M117440653.IPV6	
Relationship Attributes					
SGSN_Id	Identifier of the SGSN	Y	Y	SGSN_ID	
Region_Id	Identifier of the Region	Y	Y	lookup("nc_sgsn", "region_id", utime(Day & Starttime,"%d %b %Y %R"), SGSN_ID)	
Network_Id	Identifier of the Network	Y	Y	NETWORK_ID	
Configuration Attributes					
GnGp_IPV6_	Meaningful name of the			SGSN_ID & "/" &	

Name	GnGp IP Address			M117440653.IPV6	

5.12 Heartbeat_Channel details

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

Attribute Name	Description	Read-Only?	Time-Tracked?	Mapping	Aggregator
Primary Identifier					
Heartbeat_Channel_Id	Primary identifier of the heartbeat channel	Y		SGSN_ID & "/" & M117440684.SGSNINDEX & "-" & CHUNNELINDEX	
Relationship Attributes					
SGSN_Id	Identifier of the SGSN	Y	Y	SGSN_ID	
Region_Id	Identifier of the region	Y	Y	lookup("nc_sgsn", "region_id", utime(Day & Starttime,"%d %b %Y %R"), SGSN_ID)	
Network_Id	Identifier of the network	Y	Y	NETWORK_ID	
Configuration Attributes					
Heartbeat_Channel_Name	Meaningful name of the heartbeat channel			SGSN_ID & "/" & M117440684.SGSNINDEX & "-" & CHUNNELINDEX	

5.13 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					

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IMSI_Id	Primary identifier of the International Mobile Station Identifier	Y		SGSN_ID & "/" & M117440514.IMSI	
Relationship Attributes					
Network_Id	Network associated with the IMSI	Y	Y	NETWORK_ID	
Configuration Attributes					
IMSI_Name	Meaningful name of the International Mobile Station Identifier			SGSN_ID & "/" & M117440514.IMSI	
IMSI_Info	Optional free information and description for the IMSI			"Populated by customer"	

5.14 IP_Security details

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

Attribute Name	Description	Read-Only?	Time-Tracked?	Mapping	Aggregator
Primary Identifier					
IP_Security_Id	Primary identifier of the IPSec	Y		SGSN_ID & "/" & M117440722.SRN & "-" & SN	
Relationship Attributes					
SGSN_Id	Identifier of the SGSN	Y	Y	SGSN_ID	
Region_Id	Identifier of the Region	Y	Y	lookup("nc_sgsn", "region_id", utime(Day & Starttime,"%d %b %Y %R"), SGSN_ID)	
Network_Id	Identifier of the network	Y	Y	NETWORK_ID	
Configuration Attributes					
IP_Security_Name	Meaningful name of the IPSec			SGSN_ID &"/"& M117440722.SRN &"-"& SN	

5.15 M3UA_Dest details

In the network hierarchy, the immediate parents of the M3UA_Dest object are: BSC, MSC, MGW, RNC and SGSN.

Attribute Name	Description	Read-Only?	Time-Tracked?	Mapping	Aggregator
Primary Identifier					
M3UA_Dest_Id	Primary identifier of the M3UA Destination Point Code (DPC)	Y		SGSN_ID & "/" & M117440658.index	
Relationship Attributes					
BSC_Id	A unique identifier for the BSC.	Y	Y	No mapping	
MSC_Id	A unique identifier for the MSC.	Y	Y	No mapping	
MGW_Id	A unique identifier for the MGW.	Y	Y	No mapping	
RNC_Id	A unique identifier for the RNC.	Y	Y	No mapping	
SGSN_Id	A unique identifier for the SGSN.	Y	Y	SGSN_ID	
Region_Id	Identifier of the region	Y	Y	lookup("nc_sgsn", "region_id", utime(Day & Starttime,"%d %b %Y %R"), SGSN_ID)	
Network_Id	Identifier of the Network	Y	Y	NETWORK_ID	
Configuration Attributes					
M3UA_Dest_Name	Meaningful name of the M3UA DPC			SGSN_ID & "/" & M117440658.index	
Node_Id	Identifier of the node (e.g. SGSN or MSC)			SGSN_ID	

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Node_Type	Type of the node (e.g. SGSN or MSC)			"SGSN"	

5.16 M3UA_Link details

In the network hierarchy, the immediate parent of the M3UA_Link object is M3UA_LinkSet.

Attribute Name	Description	Read-Only?	Time-Tracked?	Mapping	Aggregator
Primary Identifier					
M3UA_Link_Id	Identifier of the M3UA link	Y		SGSN_ID & "/" & M117440656.SRN & "/" & SN & "-" & LN_ID	
Relationship Attributes					
Region_Id	Region associated with M3UA link	Y	Y	lookup("nc_sgsn", "region_id", utime(Day & Starttime,"%d %b %Y %R"), SGSN_ID)	
Network_Id	Network associated with M3UA link	Y	Y	NETWORK_ID	
M3UA_LinkSet_Id	Identifier of the M3UA LinkSet.	Y	Y	No mapping	
Configuration Attributes					
M3UA_Link_Name	User friendly name of M3UA link			SGSN_ID & "/" & M117440656.SRN & "/" & SN & "-" & LN_ID	
Node_Id	Node identifier associated with this M3UA link			SGSN_ID	
Node_Type	The type of the Node associated with the M3UA Link			"SGSN"	
Node_Name	The name of the Node associated with the M3UA Link			No mapping	
Link_Number	LNKN for M3UA link			No mapping	

Module_Number	Module identifier for M3UA link			No mapping	
Technology	Technology of the network/element (e.g. GSM, GPRS, UMTS).			"GPRS"	
M3UA_Dest_Id	Identifier of the M3UA Destination Point.			No mapping	

5.17 M3UA_LinkSet details

In the network hierarchy, the immediate parents of the M3UA_LinkSet object are: BSC, MSC, MGW, RNC and SGSN.

Attribute Name	Description	Read-Only?	Time-Tracked?	Mapping	Aggregator
Primary Identifier					
M3UA_LinkSet_Id	Unique identifier for M3UA linkset	Y		SGSN_ID & "/" & M117440657.index	
Relationship Attributes					
BSC_Id	A unique identifier for the BSC.	Y	Y	No mapping	
MSC_Id	A unique identifier for the MSC.	Y	Y	No mapping	
MGW_Id	A unique identifier for the MGW.	Y	Y	No mapping	
RNC_Id	A unique identifier for the RNC.	Y	Y	No mapping	
SGSN_Id	A unique identifier for the SGSN.	Y	Y	SGSN_ID	
M3UA_Dest_Id	Identifier of the M3UA Destination Point	Y	Y	No mapping	

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Region_Id	Identifier of the Region	Y	Y	lookup("nc_sgsn", "region_id", utime(Day & Starttime,"%d %b %Y %R"), SGSN_ID)	
Network_Id	Network associated with M3UA link	Y	Y	NETWORK_ID	
Configuration Attributes					
M3UA_LinkSet_Name	User friendly name for M3UA link			SGSN_ID & "/" & M117440657.index	
Node_Id	The Node (MSC, MGW) that this M3UA LinkSet is connected to (at this end).			SGSN_ID	
Node_Type	The type of the Node associated with the M3UA Linkset			"SGSN"	
Node_Name	The Name of the Node associated with the M3UA Linkset			No mapping	
Technology	Technology of the network/element (e.g. GSM, GPRS, UMTS).			"GPRS"	

5.18 MTP3_Link details

In the network hierarchy, the immediate parent of the MTP3_Link object is MTP3_LinkSet.

Attribute Name	Description	Read-Only?	Time-Tracked?	Mapping	Aggregator
Primary Identifier					
MTP3_Link_Id	Primary Identifier of the MTP3 link.	Y		SGSN_ID & "/" & M117440623.LSX & "/" & SRN & "-" & SN & "-" & LNK	
Relationship Attributes					
MTP3_LinkPoint_Id	Identifier of the MTP3 DPC.	Y	Y	No mapping	
Region_Id	Identifier of the region	Y	Y	lookup("nc_sgsn", "region_id",	

				utime(Day & Starttime,"%d %b %Y %R"), SGSN_ID)	
Network_Id	Identifier of the Network	Y	Y	NETWORK_ID	
MTP3_LinkSet_Id	Identifier of the MTP3 LinkSet.	Y	Y	No mapping	
Configuration Attributes					
MTP3_Link_Name	Meaningful name for the MTP3 Link			SGSN_ID & "/" & M117440623.LSX & "/" & SRN & "-" & SN & "-" & LNK	
Node_Id	Identifier of the Node (e.g. SGSN or MSC)			SGSN_ID	
Node_Type	Type of the Node (e.g. SGSN or MSC)			"SGSN"	
Node_Name	The name of the Node associated with the MTP3 Link			No mapping	
Link_Number	LNKN for MTP3 link			No mapping	
Module_Number	Module identifier for MTP3 link			No mapping	
Technology	Technology of the network/element (e.g. GSM, GPRS, UMTS).			"GPRS"	

5.19 MTP3_LinkPoint details

In the network hierarchy, the immediate parents of the MTP3_LinkPoint object are: BSC, MGW, RNC, SGSN and MSC.

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

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MTP3_LinkPoint_Id	Primary identifier of the MTP3 DPC.	Y		SGSN_ID & "/" & M117440625.DPX	
Relationship Attributes					
BSC_Id	A unique identifier for the BSC.	Y	Y	No mapping	
MGW_Id	A unique identifier for the MGW.	Y	Y	No mapping	
RNC_Id	A unique identifier for the RNC.	Y	Y	No mapping	
SGSN_Id	A unique identifier for the SGSN.	Y	Y	SGSN_ID	
MSC_Id	A unique identifier for the MSC.	Y	Y	No mapping	
Region_Id	Identifier of the Region	Y	Y	lookup("nc_sgsn", "region_id", utime(Day & Starttime,"%d %b %Y %R"), SGSN_ID)	
Network_Id	Identifier of the network	Y	Y	NETWORK_ID	
Configuration Attributes					
MTP3_LinkPoint_Name	Meaningful name of the MTP3 DPC			SGSN_ID & "/" & M117440625.DPX	
Node_Id	Identifier of the Node (e.g. SGSN or MSC)			SGSN_ID	
Node_Type	Type of the Node			"SGSN"	

5.20 MTP3_LinkSet details

In the network hierarchy, the immediate parents of the MTP3_LinkSet object are: BSC, MGW, RNC, SGSN and MSC.

Attribute Name	Description	Read-Only?	Time-Tracked?	Mapping	Aggregator
Primary Identifier					
MTP3_LinkSet_Id	Primary identifier of the MTP3 LinkSet.	Y		SGSN_ID & "/" & M117440624.LSX	

Relationship Attributes					
BSC_Id	A unique identifier for the BSC.	Y	Y	No mapping	
MGW_Id	A unique identifier for the MGW.	Y	Y	No mapping	
RNC_Id	A unique identifier for the RNC.	Y	Y	No mapping	
SGSN_Id	A unique identifier for the SGSN.	Y	Y	SGSN_ID	
MSC_Id	A unique identifier for the MSC.	Y	Y	No mapping	
MTP3_LinkPoint_Id	Identifier of the MTP3 DPC.	Y	Y	No mapping	
Region_Id	Identifier of the Region	Y	Y	lookup("nc_sgsn", "region_id", utime(Day & Starttime,"%d %b %Y %R"), SGSN_ID)	
Network_Id	Identifier of the Network	Y	Y	NETWORK_ID	
Configuration Attributes					
MTP3_LinkSet_Name	Meaningful name of the MTP3 LinkSet.			SGSN_ID & "/" & M117440624.LSX	
Node_Id	Identifier of the Node (e.g. SGSN or MSC)			SGSN_ID	
Node_Type	Type of the Node			"SGSN"	
Node_Name	The Name of the Node associated with the MTP3 Linkset			No mapping	
Technology	Technology of the network/element (e.g. GSM, GPRS, UMTS).			"GPRS"	

5.21 MTP3_Route details

In the network hierarchy, the immediate parents of the MTP3_Route object are: SGSN and MGW.

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Attribute Name	Description	Read-Only?	Time-Tracked?	Mapping	Aggregator
Primary Identifier					
MTP3_Route_Id	A unique identifier for the Route IF.	Y		SGSN_ID & "/" & M117440719.LABEL &"-" & LSX	
Relationship Attributes					
SGSN_Id	Identifier of the SGSN	Y	Y	SGSN_ID	
Region_Id	Region associated with the Route IF.	Y	Y	lookup("nc_sgsn", "region_id", utime(Day & Starttime,"%d %b %Y %R"), SGSN_ID)	
Network_Id	Network associated with the Route IF.	Y	Y	NETWORK_ID	
Source_Id	A unique identifier for the Node (MGW) at this end of the connection.	Y	Y		
Configuration Attributes					
MTP3_Route_Name	A user friendly name preferably unique for the Route IF.			SGSN_ID & "/" & M117440719.LABEL &"-" & LSX	
Target_Id	A unique identifier for the Node at the other end of the connection.				
Source_Type	Type of Source (e.g. MGW).				
Target_Type	Type of Target.				
Technology	Technology of the network/element (e.g. GSM, GPRS, UMTS).				
Node_Id	Node ID of the MTP3_Route				

5.22 MTP3B_Link details

In the network hierarchy, the immediate parent of the MTP3B_Link object is MTP3B_LinkSet.

Attribute Name	Description	Read-Only?	Time-Tracked?	Mapping	Aggregator
Primary Identifier					
MTP3B_Link_Id	Primary identifier of the MTP3B link.	Y		SGSN_ID & "/" & M117440546.LNK	
Relationship Attributes					
MTP3B_Link Point	Identifier of the MTP3B Link Point.	Y	Y	No mapping	
Region_Id	Identifier of the region	Y	Y	lookup("nc_sgsn", "region_id", utime(Day & Starttime,"%d %b %Y %R"), SGSN_ID)	
Network_Id	Identifier of the Network	Y	Y	NETWORK_ID	
MTP3B_Link Set_Id	Identifier of the MTP3B LinkSet.	Y	Y	No mapping	
Configuration Attributes					
MTP3B_Link_Name	Meaningful name of the MTP3B link			SGSN_ID & "/" & M117440546.LNK	
Node_Id	Identifier of the Node (e.g. SGSN or MSC)			SGSN_ID	
Node_Type	Type of the Node (e.g. SGSN or MSC)			"SGSN"	
Node_Name	The name of the Node associated with the MTP3B Link			No mapping	
Link_Number	LNKN for MTP3B link			No mapping	
Module_Number	Module identifier for MTP3B link			No mapping	

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

5.23 MTP3B_LinkSet details

In the network hierarchy, the immediate parents of the MTP3B_LinkSet object are: MGW, RNC, SGSN and MSC.

Attribute Name	Description	Read-Only?	Time-Tracked?	Mapping	Aggregator
Primary Identifier					
MTP3B_LinkSet_Id	Primary identifier of the MTP3B Link Set.	Y		SGSN_ID & "/" & M117440547.LSX	
Relationship Attributes					
MGW_Id	A unique identifier for the MGW.	Y	Y	No mapping	
RNC_Id	A unique identifier for the RNC.	Y	Y	No mapping	
SGSN_Id	A unique identifier for the SGSN.	Y	Y	SGSN_ID	
MSC_Id	A unique identifier for the MSC.	Y	Y	No mapping	
MTP3B_LinkPoint_Id	Identifier of the MTP3B DPC.	Y	Y	No mapping	
Region_Id	Identifier of the region	Y	Y	lookup("nc_sgsn", "region_id", utime(Day & Starttime,"%d %b %Y %R"), SGSN_ID)	
Network_Id	Identifier of the Network	Y	Y	NETWORK_ID	
Configuration Attributes					
MTP3B_LinkSet_Name	Meaningful name for the MTP3B LinkSet			SGSN_ID & "/" & M117440547.LSX	
Node_Id	Identifier of the Node (e.g. SGSN or MSC)			SGSN_ID	

Node_Type	Type of the Node			"SGSN"	
Node_Name	The Name of the Node associated with the MTP3B Linkset			No mapping	
Technology	Technology of the network/element (e.g. GSM, GPRS, UMTS).			"GPRS"	

5.24 MTP3B_Point details

In the network hierarchy, the immediate parents of the MTP3B_Point object are: MGW, RNC, SGSN and MSC.

Attribute Name	Description	Read-Only?	Time-Tracked?	Mapping	Aggregator
Primary Identifier					
MTP3B_Point_Id	Primary Identifier of the MTP3B Point.	Y		SGSN_ID & "/" & M117440548.DPX	
Relationship Attributes					
MGW_Id	A unique identifier for the MGW.	Y	Y	No mapping	
RNC_Id	A unique identifier for the RNC.	Y	Y	No mapping	
SGSN_Id	A unique identifier for the SGSN.	Y	Y	SGSN_ID	
MSC_Id	A unique identifier for the MSC.	Y	Y	No mapping	
Region_Id	Identifier of the Region	Y	Y	lookup("nc_sgsn", "region_id", utime(Day & Starttime,"%d %b %Y %R"), SGSN_ID)	
Network_Id	Identifier of the Network	Y	Y	NETWORK_ID	

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Configuration Attributes					
MTP3B_Point_Name	Meaningful name for the MTP3B Point			SGSN_ID & "/" & M117440548.DPX	
Node_Id	Identifier of the Node (e.g. SGSN or MSC)			SGSN_ID	
Node_Type	Type of the Node (e.g. SGSN or MSC)			"SGSN"	

5.25 MVNO details

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

Attribute Name	Description	Read-Only?	Time-Tracked?	Mapping	Aggregator
Primary Identifier					
MVNO_Id	Unique identifier for MVNO	Y		SGSN_ID & "/" & M117440633.MVNO	
Relationship Attributes					
Network_Id	Network associated with this element	Y	Y	NETWORK_ID	
Configuration Attributes					
MVNO_Name	User friendly name for MVNO			SGSN_ID & "/" & M117440633.MVNO	
MVNO_Type	Type for MVNO (e.g. Partner)			"Populated by customer"	
Technology	Technology of the network/element			"GPRS"	

5.26 Network details

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

Network_Id	A unique identifier for the Network.	Y		M117440515.NETWORK_ID	
Configuration Attributes					
Network_Name	A user friendly name preferably unique for the Network.			M117440515.NETWORK_ID	
Network_Type	Type of Network (e.g. GSM-900, GSM-1800 or GSM-1900).			"GSM/GPRS"	
Default_Link_Speed	The default speed of SS7 Signalling Links in this network.			64000	

5.27 NSE details

In the network hierarchy, the immediate parents of the NSE object are: SGSN and PCU.

Attribute Name	Description	Read-Only?	Time-Tracked?	Mapping	Aggregator
Primary Identifier					
NSE_Id	Identifier of the network service element.	Y		SGSN_ID & "/" & M117440524.NSEI	
Relationship Attributes					
SGSN_Id	Identifier of the SGSN	Y	Y	SGSN_ID	
PCU_Id	Identifier of the PCU.	Y	Y	No mapping	
Region_Id	Region of the network node.	Y	Y	lookup("nc_sgsn", "region_id", utime(Day & Starttime,"%d %b %Y %R"), SGSN_ID)	
Network_Id	Network of the network node.	Y	Y	NETWORK_ID	
Configuration Attributes					

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NSE_Name	Name of the NSE.			SGSN_ID & "/" & M117440524.NSEI	
SGSN_Name	Meaningful name for the SGSN			lookup("nc_sgsn", "sgsn_id", utime(Day & Starttime,"%d %b %Y %R"), SGSN_ID)	
Technology	Technology of the network/element (e.g. GSM, GPRS, UMTS).	Y		"GPRS"	

5.28 NSVC_IP details

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

Attribute Name	Description	Read-Only?	Time-Tracked?	Mapping	Aggregator
Primary Identifier					
NSVC_IP_Id	Primary identifier of the Network Service Virtual Connection IP address	Y		SGSN_ID & "/" & M117440669.NSVCID	
Relationship Attributes					
SGSN_Id	Identifier of the SGSN	Y	Y	SGSN_ID	
Region_Id	Identifier of the Region	Y	Y	lookup("nc_sgsn", "region_id", utime(Day & Starttime,"%d %b %Y %R"), SGSN_ID)	
Network_Id	Identifier of the Network	Y	Y	NETWORK_ID	
Configuration Attributes					
NSVC_IP_Name	Meaningful name of the Net work Service Virtual Connection IP address			SGSN_ID & "/" & M117440669.NSVCID	
NSVC_Id	Identifier of the NS-VC			No mapping	

5.29 NSVC details

In the network hierarchy, the immediate parents of the NSVC object are: SGSN, PCU and Bearer.

Attribute Name	Description	Read-Only?	Time-Tracked?	Mapping	Aggregator
Primary Identifier					
NSVC_Id	A unique identifier for the NSVC.	Y		SGSN_ID & "/" & M117440523.NSVCI	
Relationship Attributes					
SGSN_Id	A unique identifier for the SGSN.	Y	Y	SGSN_ID	
PCU_Id	A unique identifier for the PCU.	Y	Y	No mapping	
Bearer_Id	A unique identifier for the Bearer.	Y	Y	No mapping	
DLCI_Id	A unique identifier for the DLCI.	Y	Y	No mapping	
Region_Id	Region associated with the NSVC.	Y	Y	lookup("nc_sgsn", "region_id", utime(Day & Starttime,"%d %b %Y %R"), SGSN_ID)	
Network_Id	Network associated with the NSVC.	Y	Y	NETWORK_ID	
Configuration Attributes					
NSVC_Name	A user friendly name preferably unique for the NSVC.			SGSN_ID & "/" & M117440523.NSVCI	
NSE_Id	A unique identifier for the NSE.			No mapping	
NSE_Name	A user friendly name preferably unique for the NSE.			No mapping	
CIR	Committed Information Rate of the NSVC.			"Populated by customer"	

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DLCI_CN_Id	A unique identifier for the DLCI CN.			No mapping	
Bearer_CN_Id	A unique identifier for the Bearer CN.			No mapping	
Technology	Technology of the network/element (e.g. GSM, GPRS, UMTS).			"GPRS"	

5.30 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		M117440515.REGION_ID	
Relationship Attributes					
Network_Id	Network associated with the Region.	Y	Y	M117440515.NETWORK_ID	
Configuration Attributes					
Region_Name	A user friendly name preferably unique for the Region.			M117440515.REGION_ID	

5.31 RNC details

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

Attribute Name	Description	Read-Only?	Time-Tracked?	Mapping	Aggregator
Primary Identifier					
RNC_Id	A unique identifier for the RNC.	Y		SGSN_ID & "/" & M117440582.RNCX	

Relationship Attributes					
MSC_Id	The MSC to which this RNC is connected.	Y	Y	No mapping	
Region_Id	Region associated with the RNC.	Y	Y	lookup("nc_sgsn", "region_id", utime(Day & Starttime,"%d %b %Y %R"), SGSN_ID)	
Network_Id	Network associated with the RNC.	Y	Y	NETWORK_ID	
SGSN_Id	A unique identifier for the SGSN.	Y	Y	SGSN_ID	
Configuration Attributes					
RNC_Name	A user friendly name preferably unique for the RNC.			SGSN_ID & "/" & M117440582.RNCX	
RNC_Version	Hardware/Software version of the RNC.			No mapping	
Technology	Technology of the network/element (e.g. GSM, GPRS, UMTS).			"UMTS"	

5.32 Routing_Area details

In the network hierarchy, the immediate parents of the Routing_Area object are: SGSN and LAC.

This object is used for Data Availability tracking

Attribute Name	Description	Read-Only?	Time-Tracked?	Mapping	Aggregator
Primary Identifier					
Routing_Area_Id	A unique identifier for the Routing_Area.	Y		SGSN_ID & "/" & M117440562.LAC & "-" & RAC	

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Relationship Attributes					
SGSN_Id	A unique identifier for the SGSN.	Y	Y	SGSN_ID	
Region_Id	Region associated with the Routing_Area.	Y	Y	lookup("nc_sgsn", "region_id", utime(Day & Starttime,"%d %b %Y %R"), SGSN_ID)	
LAC_Id	A unique identifier for the LAC.	Y	Y	SGSN_ID & "/" & M117440562.LAC	
Network_Id	Network associated with the Routing_Area.	Y	Y	NETWORK_ID	
Configuration Attributes					
Routing_Area_Name	A user friendly name preferably unique for the Routing_Area.			SGSN_ID & "/" & M117440562.LAC & "-" & RAC	
SGSN_Unit_Id	A unique identifier for the SGSN Unit.			No mapping	

5.33 SGSN_Board details

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

Attribute Name	Description	Read-Only?	Time-Tracked?	Mapping	Aggregator
Primary Identifier					
SGSN_Board_Id	Primary identifier of the SGSN Board	Y		SGSN_ID & "/" & M117440626.SRN & "-" & SN & "-" & BP	
Relationship Attributes					
SGSN_Id	Identifier of the SGSN	Y	Y	SGSN_ID	
Region_Id	Identifier of the SGSN region	Y	Y	lookup("nc_sgsn", "region_id", utime(Day & Starttime,"%d %b %Y %R"), SGSN_ID)	
Network_Id	Identifier of the Network	Y	Y	NETWORK_ID	
Configuration Attributes					

SGSN_Board_Name	Meaningful name for the SGSN Board			SGSN_ID & "/" & M117440626.SRN & "-" & SN & "-" & BP	

5.34 SGSN_PLMN details

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

Attribute Name	Description	Read-Only?	Time-Tracked?	Mapping	Aggregator
Primary Identifier					
SGSN_PLMN_Id	Primary identifier of the SGSN PLMN	Y		SGSN_ID & "/" & M117440686.MCC & MNC or SGSN_ID & "/" & M117440687.MCC & MNC	
Relationship Attributes					
SGSN_Id	Identifier of the SGSN	Y	Y	M117440686.SGSN_ID or M117440687.SGSN_ID	
Region_Id	Identifier of the region	Y	Y	lookup("nc_sgsn", "region_id", utime(Day & Starttime,"%d %b %Y %R"), SGSN_ID)	
Network_Id	Identifier of the network	Y	Y	M117440686.NETWORK_ID or M117440687.NETWORK_ID	
Configuration Attributes					
SGSN_PLMN_Name	Meaningful name of the SGSN PLMN			SGSN_ID & "/" & M117440686.MCC & MNC or SGSN_ID & "/" & M117440687.MCC & MNC	

5.35 SGSN_VLAN details

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

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Attribute Name	Description	Read-Only?	Time-Tracked?	Mapping	Aggregator
Primary Identifier					
SGSN_VLAN_Id	A unique identifier for the SGSN VLAN.	Y		SGSN_ID & "/" & M117440675.FN	
Relationship Attributes					
SGSN_Id	A unique identifier for the SGSN.	Y	Y	SGSN_ID	
Region_Id	Region associated with the SGSN VLAN.	Y	Y	lookup("nc_sgsn", "region_id", utime(Day & Starttime,"%d %b %Y %R"), SGSN_ID)	
Network_Id	Network associated with the SGSN VLAN.	Y	Y	M117440675.NETWORK_ID	
Configuration Attributes					
SGSN_VLAN_Name	A user friendly name preferably unique for SGSN VLAN.	Y		SGSN_ID & "/" & M117440675.FN	
Technology	Technology of the network/element (e.g. GSM, GPRS, UMTS).			"GPRS"	

5.36 SGSN details

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

Attribute Name	Description	Read-Only?	Time-Tracked?	Mapping	Aggregator
Primary Identifier					
SGSN_Id	A unique identifier for the SGSN.	Y		M117440515.SGSN_ID	
Relationship Attributes					
Region_Id	Region associated with the SGSN.	Y	Y	REGION_ID	

Network_Id	Network associated with the SGSN.	Y	Y	NETWORK_ID	
Configuration Attributes					
SGSN_Name	A user friendly name preferably unique for the SGSN.			SGSN_ID	
SGSN_IP_address	IP Address of the SGSN.			"Populated by customer"	
SGSN_Version	Hardware/Software version of the SGSN.			"R010"	
Max_Subscriber	Maximum number of subscribers supported by the SGSN.			"Populated by customer"	
Max_PDP	Maximum number of PDP sessions supported by the SGSN.			"Populated by customer"	
Technology	Technology of the network/element (e.g. GSM, GPRS, UMTS).			"GPRS"	

5.37 System_Resource details

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

Attribute Name	Description	Read-Only?	Time-Tracked?	Mapping	Aggregator
Primary Identifier					
System_Resource_Id	Primary Identifier of the system resource	Y		SGSN_ID & "/" & M117440617.PROC_ID & "-" & PROC_TYPE & "-" & SN & "-" & SRN	
Relationship Attributes					

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Region_Id	Identifier of the region	Y	Y	lookup("nc_sgsn", "region_id", utime(Day & Starttime,"%d %b %Y %R"), SGSN_ID)	
SGSN_Id	Identifier of the SGSN	Y	Y	SGSN_ID	
Network_Id	Identifier of the network	Y	Y	NETWORK_ID	
Configuration Attributes					
System_Resource_Name	Meaningful name of the System Resource			SGSN_ID & "/" & M117440617.PROC_ID & "-" & PROC_TYPE & "-" & SN & "-" & SRN	
Slot_Number	Slot number of the process			SGSN_ID & "/" & M117440617.PROC_ID & "-" & PROC_TYPE & "-" & SN	
Process_Type	Type of process			SGSN_ID & "/" & M117440617.PROC_ID & "-" & PROC_TYPE	

5.38 UPIU_Port details

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

Attribute Name	Description	Read-Only?	Time-Tracked?	Mapping	Aggregator
Primary Identifier					
UPIU_Port_Id	A unique identifier for the UPIU Port	Y		SGSN_ID &"/"& M117440676.SRN &"-"& SN &"-"& PORT	
Relationship Attributes					
SGSN_Id	Identifier of the SGSN.	Y	Y	SGSN_ID	
Region_Id	Region associated with the UPIU Port.	Y	Y	lookup("nc_sgsn", "region_id", utime(Day & Starttime,"%d %b %Y %R"), SGSN_ID)	
Network_Id	Network associated with the UPIU Port.	Y	Y	NETWORK_ID	
Configuration Attributes					

UPIU_Port_Name	A user friendly name preferably unique for the UPIU Port.	Y		SGSN_ID &"/"& M117440676.SRN &"-"& SN &"-"& PORT	
Technology	Technology of the network/element (e.g. GSM, GPRS, UMTS).			"GPRS"	

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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_Throughput_Busy_Hour	APN.Huawei.Data_packet_with_APN.Avg_data_throughput	huatrafbh
BSS_NSE	Huawei_BSS_NSE_Packets_Busy_Hour	BSS_NSE.Huawei.Gb_Traffic_with_BSS.SGSN_Gb_Mean_Throughput	hubnsepbh
Cell	Huawei_Cell_Packets_Busy_Hour	Cell.Huawei.BSSGP_with_Cell.Data_pkts_from_NS_and_LLC	hucpchbh
M3UA_Link	Huawei_M3UA_Link_Traffic_Busy_Hour	M3UA_Link.Huawei.M3UA_link.Msg_sent_and_received	hum3uatbh
MTP3_Link	Huawei_MTP3_Link_Traffic_Busy_Hour	MTP3_Link.Huawei.MTP3_link.MTP3_MSU_sent_received	humtp3tbh
MTP3_LinkSet	Huawei_LinkSet_Sent_Erl_Busy_Hour	MTP3_LinkSet.Huawei.MTP3_link_set.MTP3_link_set_send_load_erl	hulsoutbh
MTP3_LinkSet	Huawei_LinkSet_Received_Erl_Busy_Hour	MTP3_LinkSet.Huawei.MTP3_link_set.MTP3_link_set_receive_load_erl	hulsinbh
MTP3B_Link	Huawei_MTP3B_Link_Traffic_Busy_Hour	MTP3B_Link.Huawei.MTP3B_Link.MTP3B_MSUs	humtp3btbh
NSVC	Huawei_NSVC_Packets_Busy_Hour	NSVC.Huawei.NS_with_Specific_NSVC.DL_and_UL_pkts	hunspbh

SGSN	Huawei_SGSN_Traffic_Busy_Hour	SGSN.Huawei.SGSN_LLC.LLC_data_pkts_BSSGP_and_SNDCP	hustrafbh
SGSN_Board	Huawei_Board_CPU_Busy_Hour	SGSN_Board.Huawei.SGSN_Resource.Avg_CPU_occupation_ratio	hubcpubh

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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.
- ATM_Port performance indicators.
- BFD_Session performance indicators.
- BSS_NSE performance indicators.
- Cell performance indicators.
- CG_IP_Port performance indicators.
- DNS performance indicators.
- Gb_Fwd_Channel performance indicators.
- GGSN_IP performance indicators.
- GnGp_IPV4 performance indicators.
- GnGp_IPV6 performance indicators.
- Heartbeat_Channel performance indicators.
- IMSI performance indicators.
- IP_Security performance indicators.
- M3UA_Dest performance indicators.
- M3UA_Link performance indicators.
- M3UA_LinkSet performance indicators.
- MTP3_Link performance indicators.
- MTP3_LinkPoint performance indicators.
- MTP3_LinkSet performance indicators.
- MTP3_Route performance indicators.
- MTP3B_Link performance indicators.
- MTP3B_LinkSet performance indicators.
- MTP3B_Point performance indicators.
- MVNO performance indicators.
- NSE performance indicators.
- NSVC performance indicators.
- NSVC_IP performance indicators.
- RNC performance indicators.
- Routing_Area performance indicators.
- SGSN performance indicators.
- SGSN_Board performance indicators.
- SGSN_PLMN performance indicators.

- SGSN_VLAN performance indicators.
- System_Resource performance indicators.
- UPIU_Port 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.Data_packet_with_APN
- APN.Huawei.GPRS.Gb_Mode_PDP_Context_Activation_with_APN
- APN.Huawei.GPRS.Gb_Mode_SM_Resource_with_APN
- APN.Huawei.GPRS.Iu_Mode_PDP_Context_Activation_with_APN
- APN.Huawei.GPRS.Iu_Mode_SM_Resource_with_APN

7.1.1 APN.Huawei.GPRS.Data_packet_with_APN

Data packet with APN measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
Avg_data_throughput	INTENSITY	FLOAT	Average throughput of uplink and downlink data packets related to a specific APN.	{Avg_UL_data_throughput} + {Avg_DL_data_throughput}	Average	Average, huatrafbh, Maximum, Minimum, Sum
Avg_DL_data_throughput	INTENSITY	FLOAT	Average throughput of downlink data packets related to a specific APN.	M117440652.S117464616	Average	Average, huatrafbh, Maximum, Minimum, Sum
Avg_UL_data_throughput	INTENSITY	FLOAT	Average throughput of uplink data	M117440652.S117464615	Average	Average, huatrafbh,

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			packets related to a specific APN.			Maximum, Minimum, Sum
DL_data_throughput_with_specific	INTENSITY	INT8	Total throughput of downlink data packets related to a specific APN.	M117440652.S117464614	Average	Average, huatrafbh, Maximum, Minimum, Sum
Max_DL_data_throughput	INTENSITY	FLOAT	Peak throughput of downlink data packets related to a specific APN.	M117440652.S117464618	Constant	Average, huatrafbh, Maximum, Minimum, Sum
Max_UL_data_throughput	INTENSITY	FLOAT	Peak throughput of uplink data packets related to a specific APN.	M117440652.S117464617	Constant	Average, huatrafbh, Maximum, Minimum, Sum
UL_data_throughput_with_specific	INTENSITY	INT8	Total throughput of uplink data packets related to a specific APN.	M117440652.S117464613	Average	Average, huatrafbh, Maximum, Minimum, Sum

7.1.2 APN.Huawei.GPRS.Gb_Mode_PDP_Context_Activation_with_APN

Gb Mode PDP Context Activation with APN measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
Gb_PDP_sec_act_rej_per_APN	ACCUMULATION	INTEGER	Obsolete from CN-	M117440598.S117459230	Sum	huatrafbh

			SGSN/V900R010.C01SPC022: Number of Gb mode PDP context sec activation reject per APN			
Gb_secondary_PDP_act_per_APN	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Number of Gb mode secondary PDP context activation per APN	M117440598.S117459234	Sum	huatrafbh
MS_init_IPv4_PDP_ctx_act_rej	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Number of Gb mode MS init IPv4 PDP context activation reject per APN	M117440598.S117459254	Sum	huatrafbh
MS_init_IPv4_PDP_ctx_act_succ	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Number of Gb mode MS init IPv4 PDP context activation success per APN	M117440598.S117459241	Sum	huatrafbh
MS_init_IPv4_PDP_ctx_act	ACCUMULATION	INTEGER	Obsolete from CN-	M117440598.S117459240	Sum	huatrafbh

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			SGSN/V900R010.C01SPC022: Number of Gb mode MS init IPv4 PDP context activation per APN			
MS_init_IPV6_PDP_ctx_act_rej	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Number of Gb mode MS init IPV6 PDP context activation reject per APN	M117440598.S117459255	Sum	huatrafbh
MS_init_IPV6_PDP_ctx_act_succ	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Number of Gb mode MS init IPV6 PDP context activation success per APN	M117440598.S117459247	Sum	huatrafbh
MS_init_IPV6_PDP_ctx_act	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Number of Gb mode MS init IPV6 PDP context activation per APN	M117440598.S117459246	Sum	huatrafbh
MS_init_PDP_act_dynAdd_per_APN	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022:	M117440598.S117459218	Sum	huatrafbh

			Number of Gb mode MS init PDP activation with dynamic addr per APN			
MS_init_PDP_act_rej_dyn_add	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Number of Gb mode MS init PDP activation reject with dynamic addr per APN	M117440598.S117459256	Sum	huatrafbh
MS_init_PDP_context_act_reject	ACCUMULATION	INTEGER	Number of reject of MS-initiated PDP context activation.	M117440598.S117459215	Sum	huatrafbh
MS_init_PDP_context_act_success	ACCUMULATION	INTEGER	Number of successes of MS-initiated PDP context activation.	M117440598.S117459214	Sum	huatrafbh
MS_init_PDP_context_act	ACCUMULATION	INTEGER	Number of requests of MS-initiated PDP context activation using static or dynamic PDP address.	M117440598.S117459213	Sum	huatrafbh
MS_init_PDPsucc_dynAdd_per_APN	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Number of Gb	M117440598.S117459219	Sum	huatrafbh

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			mode MS init PDP activation success with dynamic addr per APN			
Net_init_IPv4_PDP_act_succ	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Number of Gb mode Network init IPv4 PDP context activation success per APN	M117440598.S117459243	Sum	huatrafbh
Net_init_IPV6_PDP_act_succ	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Number of Gb mode Network init IPV6 PDP context activation success per APN	M117440598.S117459249	Sum	huatrafbh
Net_init_PDP_act_succ_per_APN	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Number of Gb mode Network init PDP context activation success per APN	M117440598.S117459217	Sum	huatrafbh
Network_init_IPv4_PDP_ctx_act	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Number of Gb	M117440598.S117459242	Sum	huatrafbh

			mode Network init IPv4 PDP context activation per APN			
Network_init_IPV6_PDP_ctx_act	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Number of Gb mode Network init IPV6 PDP context activation per APN	M117440598.S117459248	Sum	huatrafbh
Network_init_PDP_act_per_APN	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Number of Gb mode Network init PDP context activation per APN	M117440598.S117459216	Sum	huatrafbh
PDP_act_fail_Ge_fail_per_APN	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Number of Gb mode PDP context activation failures(Ge failures) per APN	M117440598.S117459229	Sum	huatrafbh
PDP_act_fail_Unspecific_reason	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R0	M117440598.S117459252	Sum	huatrafbh

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			10.C01SPC022: Number of Gb mode PDP context activation failures (Unspecific reason) per APN			
PDP_fail_DNS_res_fail	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Number of Gb mode PDP context activation failures(DNS resolution failures) per APN	M117440598.S117459223	Sum	huatrafbh
PDP_fail_insuff_net_res	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Number of Gb mode PDP context activation failures(insufficient net resources) per APN	M117440598.S117459222	Sum	huatrafbh
PDP_fail_miss_unknown_APN	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Number of Gb mode PDP context activation failures(missing or unknown APN by	M117440598.S117459224	Sum	huatrafbh

			GGSN) per APN			
PDP_fail_Operator_Barring	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Number of Gb mode PDP context activation failures (Operator Determined Barring) per APN	M117440598.S117459238	Sum	huatrafbh
PDP_fail_QoS_nego_fail	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Number of Gb mode PDP context activation failures(QoS negotiation failures) per APN	M117440598.S117459220	Sum	huatrafbh
PDP_fail_rejed_by_GGSN_per_APN	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Number of Gb mode PDP context activation failures(rejected by GGSN) per APN	M117440598.S117459221	Sum	huatrafbh
PDP_fail_serv_	ACCUMULA	INTEG	Obsolete from	M117440598.S117	Sum	huatrafbh

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unsubscribed_GG	TION	ER	CN-SGSN/V900R010.C01SPC022: Number of Gb mode PDP context activation failures(service unsubscribed by GGSN) per APN	459228		
PDP_fail_service_unsupported	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Number of Gb mode PDP context activation failures(service unsupported) per APN	M117440598.S117459227	Sum	huatrafbh
PDP_fail_unkown_PDPAdd_PDPTyp	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Number of Gb mode PDP context activation failures(unkown PDP addr or PDP type) per APN	M117440598.S117459225	Sum	huatrafbh
PDP_fail_user_authen_fail	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Number of Gb mode PDP context activation failures(user authentication	M117440598.S117459226	Sum	huatrafbh

			failures) per APN			
PDP_sec_act_fail_Ugbi_Congest	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Number of Gb mode PDP context sec activation failures (Ugbi PDP Conjestion) per APN	M117440598.S117459237	Sum	huatrafbh
PDP_sec_act_fail_unspec_Reason	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Number of Gb mode PDP context sec activation failures(Unspecified Reason) per APN	M117440598.S117459253	Sum	huatrafbh
PDP_sec_fail_Ge_fail	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Number of Gb mode PDP context sec activation failures(Ge failures) per APN	M117440598.S117459233	Sum	huatrafbh
PDP_sec_fail_GGSN_rej	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R0	M117440598.S117459232	Sum	huatrafbh

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			10.C01SPC022: Number of Gb mode PDP context sec activation failures(GGSN reject) per APN			
PDP_sec_fail_net_res_insuff	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Number of Gb mode PDP context sec activation failures(net resource insufficent) per APN	M117440598.S117459231	Sum	huatrafbh
PDP_sec_fail_Operator_Barring	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Number of Gb mode PDP context sec activation failures (Operator Determined Barring) per APN	M117440598.S117459239	Sum	huatrafbh
PDP_sec_fail_Ugbi_PDP_Congest	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Number of Gb mode PDP context sec failures (Ugbi PDP Conjestion) per APN	M117440598.S117459236	Sum	huatrafbh

Sec_IPv4_PDP_act_succ	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Number of Gb mode secondary IPv4 PDP context activation success per APN	M117440598.S117459245	Sum	huatrafbh
Sec_IPV6_PDP_act_succ	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Number of Gb mode secondary IPV6 PDP context activation success per APN	M117440598.S117459251	Sum	huatrafbh
Secondary_IPv4_PDP_ctx_act	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Number of Gb mode secondary IPv4 PDP context activation per APN	M117440598.S117459244	Sum	huatrafbh
Secondary_IPV6_PDP_ctx_act	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Number of Gb mode secondary IPV6 PDP context	M117440598.S117459250	Sum	huatrafbh

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			activation per APN			
Secondary_PDP_act_succ_per_APN	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Number of Gb mode secondary PDP context activation success per APN	M117440598.S117459235	Sum	huatrafbh

7.1.3 APN.Huawei.GPRS.Gb_Mode_SM_Resource_with_APN

Gb Mode SM Resource with APN measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
Avg_act_PDP_context_by_APN	INTENSITY	FLOAT	Average number of 2G PDP contexts activated using specific APN.	M117440650.S117464413	Average	Average, huatrafbh, Maximum, Minimum, Sum
Avg_users_by_APN	INTENSITY	FLOAT	Average number of activated subscribers with the specified APN in Gb mode.	M117440650.S117464415	Average	Average, huatrafbh, Maximum, Minimum, Sum
Max_act_PDP_context_by_APN	INTENSITY	INTEGER	Maximum number of 2G PDP contexts activated using specific APN.	M117440650.S117464414	Constant	Average, huatrafbh, Maximum, Minimum, Sum
Max_users_by	INTENSITY	INTEG	Maximum	M117440650.S117	Constant	Average,

_APN		ER	number of activated subscribers in Gb mode with the specified APN.	464416		huatrafbh, Maximum, Minimum, Sum
MS_PDP_context_act_times_by_APN	ACCUMULATION	INTEGER	Number of successful MS initiated PDP context activations with the specified APN.	M117440650.S117464419	Sum	huatrafbh, Sum
MS_PDP_context_Max_act_time_delay_by_APN	INTENSITY	INTEGER	Maximum MS initiated PDP context activation duration in Gb mode based on APN.	M117440650.S117464417	Average	Average, huatrafbh, Maximum, Minimum, Sum
MS_PDP_context_Mean_act_time_delay_by_APN	INTENSITY	FLOAT	Average MS initiated PDP context activation duration in Gb mode based on APN.	M117440650.S117464418	Average	Average, huatrafbh, Maximum, Minimum, Sum
MS_PDP_context_Total_act_time_delay_by_APN	ACCUMULATION	INTEGER	Total MS initiated PDP context activation duration with the specified APN in a measurement period.	M117440650.S117464420	Sum	huatrafbh, Sum

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7.1.4 APN.Huawei.GPRS.Iu_Mode_PDP_Context_Activation_with_APN

Iu Mode PDP Context Activation with APN measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
MS_init_PDP_context_act_reject	ACCUMULATION	INTEGER	Number of rejected MS-initiated PDP context activations in a specified APN	M117440607.S117460115	Sum	huatrafbh, Sum
MS_init_PDP_context_act_success	ACCUMULATION	INTEGER	Number of successful MS-initiated PDP context activations in a specified APN	M117440607.S117460114	Sum	huatrafbh, Sum
MS_init_PDP_context_act	ACCUMULATION	INTEGER	Number of MS-initiated PDP context activation attempts in a specified APN	M117440607.S117460113	Sum	huatrafbh, Sum

7.1.5 APN.Huawei.GPRS.Iu_Mode_SM_Resource_with_APN

Iu Mode SM Resource with APN measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
Avg_act_PDP_context_by_APN	INTENSITY	FLOAT	Average number of 3G PDP contexts activated using specific APN.	M117440651.S117464513	Average	Average, huatrafbh, Maximum, Minimum, Sum
Avg_users_by_APN_APN	INTENSITY	FLOAT	Average number of activated subscribers in Iu	M117440651.S117464515	Average	Average, huatrafbh, Maximu

			mode with the specified APN.			m, Minimum, Sum
Max_act_PDP_context_by_APN	INTENSITY	INTEGER	Maximum number of 3G PDP contexts activated using specific APN.	M117440651.S117464514	Constant	Average, huatrafbh, Maximum, Minimum, Sum
Max_users_by_APN	INTENSITY	INTEGER	Maximum number of activated subscribers in Iu mode with the specified APN.	M117440651.S117464516	Constant	Average, huatrafbh, Maximum, Minimum, Sum
MS_init_PDP_context_Max_act_dur	INTENSITY	INTEGER	Maximum MS initiated PDP context activation duration in Iu mode based on APN.	M117440651.S117464517	Constant	Average, huatrafbh, Maximum, Minimum, Sum
MS_init_PDP_context_Mean_act_dur	INTENSITY	FLOAT	Average MS initiated PDP context activation duration in Iu mode based on APN.	M117440651.S117464518	Average	Average, huatrafbh, Maximum, Minimum, Sum
MS_PDP_context_act_times	ACCUMULATION	INTEGER	Number of successful MS initiated PDP context activations with the specified APN.	M117440651.S117464519	Sum	huatrafbh, Sum

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MS_PDP_context_Total_act_dur	ACCUMULATION	INTEGER	Total MS initiated PDP context activation duration with the specified APN in a measurement period.	M117440651.S117464520	Sum	huatrafbh, Sum

7.2 ATM_Port Performance Indicators

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

- ATM_Port.Huawei.GPRS.ATM_SGSN_port

7.2.1 ATM_Port.Huawei.GPRS.ATM_SGSN_port

ATM port measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
Cells_received_normally	ACCUMULATION	INTEGER	Number of cells that ATM port receives successfully.	M117440655.S117464922	Sum	Sum
Cells_sent_normally	ACCUMULATION	INTEGER	Number of cells that ATM port sends successfully.	M117440655.S117464921	Sum	Sum

7.3 BFD_Session Performance Indicators

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

- BFD_Session.Huawei.GPRS.BFD_session

7.3.1 BFD_Session.Huawei.GPRS.BFD_session

BFD session measurements

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
Down_on_special_BFD_session	ACCUMULATION	INTEGER	Number of down on specific BFD session	M117440715.S117473816	Sum	Maximum, Minimum
Drop_pkt_on_special_BFDsession	ACCUMULATION	INTEGER	Number of packets dropped by specific BFD session	M117440715.S117473815	Sum	Maximum, Minimum
Rcvd_pkt_on_special_BFDsession	ACCUMULATION	INTEGER	Number of packets received by specific BFD session	M117440715.S117473813	Sum	Maximum, Minimum
Sent_pkt_on_special_BFDsession	ACCUMULATION	INTEGER	Number of packets sent by specific BFD session	M117440715.S117473814	Sum	Maximum, Minimum

7.4 BSS_NSE Performance Indicators

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

- BSS_NSE.Huawei.GPRS.Attach_with_BSS
- BSS_NSE.Huawei.GPRS.Gb_Traffic_with_BSS
- BSS_NSE.Huawei.GPRS.Inter_SGSN_RAU_with_BSS
- BSS_NSE.Huawei.GPRS.Intra_SGSN_RAU_with_BSS
- BSS_NSE.Huawei.GPRS.PDP_Context_Activation_with_BSS
- BSS_NSE.Huawei.GPRS.Radio_Resource_with_BSS
- BSS_NSE.Huawei.GPRS.SM_Resource_with_BSS

7.4.1 BSS_NSE.Huawei.GPRS.Attach_with_BSS

Attach with BSS measurement

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KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
_%_Combined_attach_accept	PERCENTAGE	FLOAT	Percentage of GPRS/IMSI attachment successes within the SGSN.	100 * {Combined_attach_accept}/ {Combined_attach_request}	Average	Average, hubnsepbh, hustrafbh
_%_GPRS_attach_acc_while_IMSI_attached	PERCENTAGE	FLOAT	Percentage of IMSI-attached GPRS attachment successes within the SGSN.	100 * {GPRS_attach_acc_while_IMSI_attached}/ {GPRS_attach_req_while_IMSI_attached}	Average	Average, hubnsepbh, hustrafbh
_%_GPRS_attach_accept	PERCENTAGE	FLOAT	Percentage of GPRS attachment successes within the SGSN.	100 * {GPRS_attach_accept}/ {GPRS_attach_request}	Average	Average, hubnsepbh, hustrafbh
Attach_rej_Ge_error	ACCUMULATION	INTEGER	Number of GPRS attachment failures within SGSN due to Ge protocol error.	M117440558.S117455224	Sum	hubnsepbh, hustrafbh, Sum
Attach_rej_Gprs_not_allowed	ACCUMULATION	INTEGER	Number of GPRS attachment rejects due to GPRS service is not allowed in this PLMN.	M117440558.S117455216	Sum	hubnsepbh, hustrafbh, Sum
Attach_rej_Gprs_srvc_not_allow	ACCUMULATION	INTEGER	Number of GPRS attachment failures within SGSN due to GPRS services	M117440558.S117455221	Sum	hubnsepbh, hustrafbh, Sum

			not allowed.			
Attach_rej_Gr_error	ACCUMULATION	INTEGER	Number of GPRS attachment failures within SGSN due to Gr protocol error.	M117440558.S117455223	Sum	hubnsepbh, hustrafbh, Sum
Attach_rej_illegal_ME	ACCUMULATION	INTEGER	Number of GPRS attachment failures within SGSN due to illegal ME.	M117440558.S117455220	Sum	hubnsepbh, hustrafbh, Sum
Attach_rej_LA_not_allowed	ACCUMULATION	INTEGER	Number of GPRS attachment rejects due to Location Area not allowed.	M117440558.S117455217	Sum	hubnsepbh, hustrafbh, Sum
Attach_rej_no_suitable_cells	ACCUMULATION	INTEGER	Number of GPRS attachment rejects due to no suitable Cells in LA.	M117440558.S117455219	Sum	hubnsepbh, hustrafbh, Sum
Attach_rej_Protocol_error	ACCUMULATION	INTEGER	Number of GPRS attachment failures within SGSN due to protocol error.	M117440558.S117455222	Sum	hubnsepbh, hustrafbh, Sum
Attach_rej_Roam_not_allowed	ACCUMULATION	INTEGER	Number of GPRS attachment failures within SGSN due to LA roaming	M117440558.S117455218	Sum	hubnsepbh, hustrafbh, Sum

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			restriction.			
Com_attach_illegal_MS	ACCUMULATION	INTEGER	Number of combined GPRS/IMSI attachment rejects due to illegal mobile station.	M117440558.S117455227	Sum	hubnsepbh, hustrafbh, Sum
Com_attach_rej_Ge_error	ACCUMULATION	INTEGER	Number of combined GPRS/IMSI attachment failures within SGSN due to Ge protocol error.	M117440558.S117455236	Sum	hubnsepbh, hustrafbh, Sum
Com_attach_rej_Gprs_not_allowed	ACCUMULATION	INTEGER	Number of combined GPRS/IMSI attachment rejects due to GPRS service is not allowed in this PLMN.	M117440558.S117455228	Sum	hubnsepbh, hustrafbh, Sum
Com_attach_rej_Gprs_srvc_not_allow	ACCUMULATION	INTEGER	Number of combined GPRS/IMSI attachment failures within SGSN due to GPRS services not allowed.	M117440558.S117455233	Sum	hubnsepbh, hustrafbh, Sum
Com_attach_rej_Gr_error	ACCUMULATION	INTEGER	Number of combined GPRS/IMSI attachment failures within SGSN due to Gr protocol error.	M117440558.S117455235	Sum	hubnsepbh, hustrafbh, Sum
Com_attach_rej_illegal_ME	ACCUMULATION	INTEGER	Number of combined	M117440558.S117455232	Sum	hubnsepbh,

			GPRS/IMSI attachment failures within SGSN due to illegal ME.			hustrafbh, Sum
Com_attach_rej_LA_not_allowed	ACCUMULATION	INTEGER	Number of combined GPRS/IMSI attachment rejects due to Location Area not allowed.	M117440558.S117455229	Sum	hubnsepbh, hustrafbh, Sum
Com_attach_rej_no_suitable_cell	ACCUMULATION	INTEGER	Number of combined GPRS/IMSI attachment rejects due to no suitable Cells in LA.	M117440558.S117455231	Sum	hubnsepbh, hustrafbh, Sum
Com_attach_rej_Protocol_error	ACCUMULATION	INTEGER	Number of combined GPRS/IMSI attachment failures within SGSN due to protocol error.	M117440558.S117455234	Sum	hubnsepbh, hustrafbh, Sum
Com_attach_rej_Roam_not_allowed	ACCUMULATION	INTEGER	Number of combined GPRS/IMSI attachment failures within SGSN due to LA roaming restriction.	M117440558.S117455230	Sum	hubnsepbh, hustrafbh, Sum
Combined_attach_accept	ACCUMULATION	INTEGER	Number of GPRS/IMSI attachment successes	M117440558.S117455226	Sum	hubnsepbh, hustrafbh, Sum

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			within the SGSN.			
Combined_attach_request	ACCUMULATION	INTEGER	Number of combined GPRS/IMAI attachment requests within the SGSN.	M117440558.S117455225	Sum	hubnsepbh, hustrafbh, Sum
GPRS_attach_acc_while_IMSI_attached	ACCUMULATION	INTEGER	Number of IMSI-attached GPRS attachment successes within the SGSN.	M117440558.S117455240	Sum	hubnsepbh, hustrafbh, Sum
GPRS_attach_accept	ACCUMULATION	INTEGER	Number of GPRS attachment successes within the SGSN.	M117440558.S117455214	Sum	hubnsepbh, hustrafbh, Sum
GPRS_attach_rej_illegal_MS	ACCUMULATION	INTEGER	Number of GPRS attachment rejects due to illegal mobile station.	M117440558.S117455215	Sum	hubnsepbh, hustrafbh, Sum
GPRS_attach_req_while_IMSI_attached	ACCUMULATION	INTEGER	Number of IMSI-attached GPRS attachment requests within the SGSN.	M117440558.S117455239	Sum	hubnsepbh, hustrafbh, Sum
GPRS_attach_request	ACCUMULATION	INTEGER	Number of GPRS attachment requests within the SGSN.	M117440558.S117455213	Sum	hubnsepbh, hustrafbh, Sum
GPRS_IMSI_attach_fail_MSC_unreach	ACCUMULATION	INTEGER	The number of times GPRS attachment	M117440558.S117455238	Sum	hubnsepbh, hustrafbh

			succeeds but IMSI attachment fails (MSC presently unreachable).			, Sum
GPRS_IMSI_attach_fail_VLR_rej	ACCUMULATION	INTEGER	The GPRS attachment succeeds while the IMSI attachment fails (rejected by VLR).	M117440558.S117455237	Sum	hubnsepbh, hustrafbh, Sum
IMSI_attach_GPRS_attach_rej_Ge_err	ACCUMULATION	INTEGER	Number of IMSI-attached GPRS attachment failures within SGSN due to Ge protocol error.	M117440558.S117455250	Sum	hubnsepbh, hustrafbh, Sum
IMSI_attach_GPRS_attach_rej_Gr_err	ACCUMULATION	INTEGER	Number of IMSI-attached GPRS attachment failures within SGSN due to Gr protocol error.	M117440558.S117455249	Sum	hubnsepbh, hustrafbh, Sum
IMSI_attach_GPRS_attach_rej_ill_ME	ACCUMULATION	INTEGER	Number of IMSI-attached GPRS attachment failures within SGSN due to illegal ME.	M117440558.S117455246	Sum	hubnsepbh, hustrafbh, Sum
IMSI_attach_GPRS_attach_rej_ill_MS	ACCUMULATION	INTEGER	Number of IMSI-attached GPRS	M117440558.S117455241	Sum	hubnsepbh, hustrafbh

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			attachment rejects due to illegal mobile station.			, Sum
IMSI_attach_rej_Gprs_not_allowed	ACCUMULATION	INTEGER	Number of IMSI-attached GPRS attachment rejects due to GPRS service is not allowed in this PLMN.	M117440558.S117455242	Sum	hubnsepbh, hustrafbh, Sum
IMSI_attach_rej_Gprs_service_not	ACCUMULATION	INTEGER	Measurement provides the number of IMSI-attached GPRS attachment failures within SGSN due to GPRS services not allowed.	M117440558.S117455247	Sum	hubnsepbh, hustrafbh, Sum
IMSI_attach_rej_LA_not_allowed	ACCUMULATION	INTEGER	Number of IMSI-attached GPRS attachment of HPLMN users rejects due to Location Area not allowed.	M117440558.S117455243	Sum	hubnsepbh, hustrafbh, Sum
IMSI_attach_rej_no_suitable_cell	ACCUMULATION	INTEGER	Number of IMSI-attached GPRS attachment rejects due to no suitable Cells in LA.	M117440558.S117455245	Sum	hubnsepbh, hustrafbh, Sum
IMSI_attach_rej_Protocol_error	ACCUMULATION	INTEGER	Number of IMSI-attached GPRS attachment failures within SGSN due to	M117440558.S117455248	Sum	hubnsepbh, hustrafbh, Sum

			protocol error.			
IMSI_attach_rej_Roam_not_allow	ACCUMULATION	INTEGER	Number of IMSI-attached GPRS attachment of non-HPLMN users failures within SGSN due to LA roaming restriction.	M117440558.S117455244	Sum	hubnsepbh, hustrafbh, Sum

7.4.2 BSS_NSE.Huawei.GPRS.Gb_Traffic_with_BSS

Gb Traffic with BSS measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
SGSN_Gb_Mean_rec_Throughput	INTENSITY	FLOAT	The arithmetic mean of NS packets throughput received from BSS (excluding NS packet header).	M117440526.S117452017	Average	Average, hubnsepbh, hustrafbh, Maximum, Minimum, Sum
SGSN_Gb_Mean_sent_Throughput	INTENSITY	FLOAT	The arithmetic mean of NS packets throughput sent to BSS (excluding NS packet header).	M117440526.S117452016	Average	Average, hubnsepbh, hustrafbh, Maximum, Minimum, Sum
SGSN_Gb_Mean_Throughput	INTENSITY	FLOAT	The arithmetic mean of NS	M117440526.S117452018	Average	Average, hubnsepb

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			packets throughput processed by SGSN(excluding NS packet header).			h, hustrafbh, Maximum, Minimum, Sum
SGSN_Gb_operated_kbytes	ACCUMULATION	INT8	This measurement provides bytes of NS packets processed by SGSN (excluding NS packet header).	M117440526.S117452015	Sum	hubnsepbh, hustrafbh, Sum
SGSN_Gb_Peak_rec_Throughput	INTENSITY	FLOAT	The maximum recorded value of NS packets throughput received from BSS (excluding NS packet header).	M117440526.S117452020	Constant	Average, hubnsepbh, hustrafbh, Maximum, Minimum, Sum
SGSN_Gb_Peak_sent_Throughput	INTENSITY	FLOAT	The maximum recorded value of NS packets throughput sent to BSS (excluding NS packet header).	M117440526.S117452019	Constant	Average, hubnsepbh, hustrafbh, Maximum, Minimum, Sum
SGSN_Gb_Peak_Throughput	INTENSITY	FLOAT	The maximum recorded value of NS packets throughput processed by SGSN (excluding NS packet header).	M117440526.S117452021	Constant	Average, hubnsepbh, hustrafbh, Maximum, Minimum, Sum
SGSN_Gb_rec	ACCUMULA	INT8	This	M117440526.S117	Sum	hubnsepb

_kbytes	TION		measurement provides bytes of NS packets received from BSS (excluding NS packet header) .	452014		h, hustrafbh, Sum
SGSN_Gb_sent_kbytes	ACCUMULATION	INT8	This measurement provides bytes of NS packets sent to BSS (excluding NS packet header).	M117440526.S117452013	Sum	hubnsepbh, hustrafbh, Sum

7.4.3 BSS_NSE.Huawei.GPRS.Inter_SGSN_RAU_with_BSS

Inter SGSN RAU with BSS measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
_%_Com_RAU_success	PERCENTAGE	FLOAT	Percentage of successful combined inter-SGSN RAU updates.	100 * {Com_RAU_success}/ {Com_RAU_request}	Average	Average, hubnsepbh, hustrafbh
_%_RAU_success	PERCENTAGE	FLOAT	Percentage of inter-SGSN RAU successes within this SGSN area.	100 * {RAU_success}/ {RAU_request}	Average	Average, hubnsepbh, hustrafbh
Com_RAU_rej_Ge_fail	ACCUMULATION	INTEGER	Number of inter-SGSN combined RA/LA update failures due to Ge protocol error.	M117440560.S117455438	Sum	hubnsepbh, hustrafbh, Sum

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Com_RAU_rej_GPRS_srvc_not_allow	ACCUMULATION	INTEGER	Number of inter-SGSN combined RA/LA update failures due to illegal ME.	M117440560.S117455434	Sum	hubnsepbh, hustrafbh, Sum
Com_RAU_rej_Gr_fail	ACCUMULATION	INTEGER	Number of inter-SGSN combined RA/LA update failures due to Gr protocol error.	M117440560.S117455437	Sum	hubnsepbh, hustrafbh, Sum
Com_RAU_rej_illegal_ME	ACCUMULATION	INTEGER	Number of inter-SGSN combined RA/LA update failures due to illegal ME.	M117440560.S117455433	Sum	hubnsepbh, hustrafbh, Sum
Com_RAU_rej_illegal_MS	ACCUMULATION	INTEGER	Number of inter-SGSN combined RA/LA update failures due to illegal mobile station.	M117440560.S117455428	Sum	hubnsepbh, hustrafbh, Sum
Com_RAU_rej_implicitly_detached	ACCUMULATION	INTEGER	Number of inter-SGSN combined RA/LA update failures due to GPRS service not allowed.	M117440560.S117455435	Sum	hubnsepbh, hustrafbh, Sum
Com_RAU_rej_LA_not_allowed	ACCUMULATION	INTEGER	Number of inter-SGSN combined RA/LA update failures due to location area not allowed.	M117440560.S117455430	Sum	hubnsepbh, hustrafbh, Sum
Com_RAU_rej_protocol_error	ACCUMULATION	INTEGER	Number of inter-SGSN	M117440560.S117455436	Sum	hubnsepbh,

			combined RA/LA update failures due to protocol error.			hustrafbh, Sum
Com_RAU_rej_roamIng_not_allowed	ACCUMULATION	INTEGER	Number of inter-SGSN combined RA/LA update failures due to roaming not allowed in this Location area.	M117440560.S117455431	Sum	hubnsepbh, hustrafbh, Sum
Com_RAU_rej_serv_not_allow	ACCUMULATION	INTEGER	Number of inter-SGSN combined RA/LA update failures due to GPRS service is not allowed in this PLMN.	M117440560.S117455429	Sum	hubnsepbh, hustrafbh, Sum
Com_RAU_rej_times_No_suit_Cells	ACCUMULATION	INTEGER	Number of inter-SGSN combined RA/LA update failures due to no suitable Cells in LA.	M117440560.S117455432	Sum	hubnsepbh, hustrafbh, Sum
Com_RAU_request	ACCUMULATION	INTEGER	Number of inter-SGSN combined RA/LA update requests.	M117440560.S117455426	Sum	hubnsepbh, hustrafbh, Sum
Com_RAU_success	ACCUMULATION	INTEGER	Number of successful combined inter-SGSN RAU updates.	M117440560.S117455427	Sum	hubnsepbh, hustrafbh, Sum
RAU_accept_b	ACCUMULA	INTEG	Number of	M117440560.S117	Sum	hubnsepb

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ut_LAU_rej_MSC_unreach	TION	ER	times RAU is accepted but LAU fails due to MSC temporarily unreachable in the process of combined inter-SGSN updates.	455439		h, hustrafbh, Sum
RAU_accept_but_LAU_rej_VLR_rej	ACCUMULATION	INTEGER	Number of times RAU is accepted but LAU fails due to VLR reject in the process of combined inter-SGSN updates.	M117440560.S117455440	Sum	hubnsepbh, hustrafbh, Sum
RAU_complete_msg_rec	ACCUMULATION	INTEGER	Number of times inter-SGSN RAU is completed .	M117440560.S117455441	Sum	hubnsepbh, hustrafbh, Sum
RAU_rej_Ge_fail	ACCUMULATION	INTEGER	Number of inter-SGSN RAU failures due to Ge protocol error.	M117440560.S117455425	Sum	hubnsepbh, hustrafbh, Sum
RAU_rej_GPRS_service_not_allowed	ACCUMULATION	INTEGER	Number of inter-SGSN RAU failures due to GPRS service not allowed.	M117440560.S117455421	Sum	hubnsepbh, hustrafbh, Sum
RAU_rej_Gr_fail	ACCUMULATION	INTEGER	Number of inter-SGSN RAU failures due to Gr protocol error.	M117440560.S117455424	Sum	hubnsepbh, hustrafbh, Sum
RAU_rej_illegal_ME	ACCUMULATION	INTEGER	Number of inter-SGSN RAU failures due to illegal	M117440560.S117455420	Sum	hubnsepbh, hustrafbh, Sum

			ME.			
RAU_rej_illegal_MS	ACCUMULATION	INTEGER	Number of inter-SGSN RAU failures due to illegal mobile station.	M117440560.S117455415	Sum	hubnsepbh, hustrafbh, Sum
RAU_rej_implicitly_detached	ACCUMULATION	INTEGER	Number of inter-SGSN RAU failures due to implicitly detached.	M117440560.S117455422	Sum	hubnsepbh, hustrafbh, Sum
RAU_rej_LA_not_allowed	ACCUMULATION	INTEGER	Number of inter-SGSN RAU failures due to location area not allowed.	M117440560.S117455417	Sum	hubnsepbh, hustrafbh, Sum
RAU_rej_no_suitable_Cells_In_LA	ACCUMULATION	INTEGER	Number of inter-SGSN RAU failures due to no suitable Cells in LA.	M117440560.S117455419	Sum	hubnsepbh, hustrafbh, Sum
RAU_rej_protocol_error	ACCUMULATION	INTEGER	Number of inter-SGSN RAU failures due to protocol error.	M117440560.S117455423	Sum	hubnsepbh, hustrafbh, Sum
RAU_rej_roamIng_not_allowed_In_LA	ACCUMULATION	INTEGER	Number of inter-SGSN RAU failures due to roaming not allowed in this Location area.	M117440560.S117455418	Sum	hubnsepbh, hustrafbh, Sum
RAU_rej_serv_	ACCUMULA	INTEG	Number of	M117440560.S117	Sum	hubnsepb

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not_allow_this_PLMN	TION	ER	inter-SGSN RAU failures due to GPRS service is not allowed in this PLMN.	455416		h, hustrafbh, Sum
RAU_request	ACCUMULATION	INTEGER	Number of inter-SGSN RAU requests within the SGSN area.	M117440560.S117455413	Sum	hubnsepbh, hustrafbh, Sum
RAU_success	ACCUMULATION	INTEGER	Number of inter-SGSN RAU successes within this SGSN area.	M117440560.S117455414	Sum	hubnsepbh, hustrafbh, Sum

7.4.4 BSS_NSE.Huawei.GPRS.Intra_SGSN_RAU_with_BSS

Intra SGSN RAU with BSS measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
_%_Com_RAU_success	PERCENTAGE	FLOAT	Percentage of successful combined intra-SGSN RAU updates.	100 * {Com_RAU_success}/ {Com_RAU_request}	Average	Average, hubnsepbh, hustrafbh
_%_RAU_success	PERCENTAGE	FLOAT	Percentage of intra-SGSN RAU successes within this SGSN area.	100 * {RAU_success}/ {RAU_request}	Average	Average, hubnsepbh, hustrafbh
Com_RAU_rej_Ge_fail	ACCUMULATION	INTEGER	Number of intra-SGSN combined RA/LA update failures due to Ge protocol error.	M117440559.S117455332	Sum	hubnsepbh, hustrafbh, Sum
Com_RAU_rej	ACCUMULA	INTEG	Number of	M117440559.S117	Sum	hubnsepb

_Gr_fail	TION	ER	intra-SGSN combined RA/LA update failures due to Gr protocol error.	455331		h, hustrafbh, Sum
Com_RAU_rej_illegal_MS	ACCUMULATION	INTEGER	Number of intra-SGSN combined RA/LA update failures due to illegal mobile station.	M117440559.S117455325	Sum	hubnsepbh, hustrafbh, Sum
Com_RAU_rej_implicit_detached	ACCUMULATION	INTEGER	Number of intra-SGSN combined RA/LA update failures due to implicitly detached.	M117440559.S117455329	Sum	hubnsepbh, hustrafbh, Sum
Com_RAU_rej_LA_not_allow	ACCUMULATION	INTEGER	Number of intra-SGSN combined RA/LA update failures due to location area not allowed.	M117440559.S117455326	Sum	hubnsepbh, hustrafbh, Sum
Com_RAU_rej_no_suitable_Cells_In_LA	ACCUMULATION	INTEGER	Number of intra-SGSN combined RA/LA update failures due to no suitable Cells in LA.	M117440559.S117455328	Sum	hubnsepbh, hustrafbh, Sum
Com_RAU_rej_protocol_error	ACCUMULATION	INTEGER	Number of intra-SGSN combined RA/LA update	M117440559.S117455330	Sum	hubnsepbh, hustrafbh, Sum

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			failures due to protocol error.			
Com_RAU_rej_roam_not_allow	ACCUMULATION	INTEGER	Number of intra-SGSN combined RA/LA update failures due to roaming not allowed in this Location area.	M117440559.S117455327	Sum	hubnsepbh, hustrafbh, Sum
Com_RAU_request	ACCUMULATION	INTEGER	Number of intra-SGSN combined RA/LA update requests.	M117440559.S117455323	Sum	hubnsepbh, hustrafbh, Sum
Com_RAU_success	ACCUMULATION	INTEGER	Number of successful combined intra-SGSN RAU updates.	M117440559.S117455324	Sum	hubnsepbh, hustrafbh, Sum
RAU_accept_but_LAU_rej_MSC_unreach	ACCUMULATION	INTEGER	Number of times RAU is accepted but LAU fails due to MSC temporarily unreachable in the process of combined intra-SGSN updates.	M117440559.S117455333	Sum	hubnsepbh, hustrafbh, Sum
RAU_accept_but_LAU_rej_VLR_rej	ACCUMULATION	INTEGER	Number of times RAU is accepted but LAU fails due to VLR reject in the process of combined intra-SGSN updates.	M117440559.S117455334	Sum	hubnsepbh, hustrafbh, Sum
RAU_complete_message_rec	ACCUMULATION	INTEGER	Number of times intra-SGSN RAU is	M117440559.S117455335	Sum	hubnsepbh, hustrafbh

			completed .			, Sum
RAU_rej_Ge_fail	ACCUMULATION	INTEGER	Number of intra-SGSN RAU failures due to Ge protocol error.	M117440559.S117455322	Sum	hubnsepbh, hustrafbh, Sum
RAU_rej_Gr_fail	ACCUMULATION	INTEGER	Number of intra-SGSN RAU failures due to Gr protocol error.	M117440559.S117455321	Sum	hubnsepbh, hustrafbh, Sum
RAU_rej_illegal_MS	ACCUMULATION	INTEGER	Number of intra-SGSN RAU failures due to illegal mobile station.	M117440559.S117455315	Sum	hubnsepbh, hustrafbh, Sum
RAU_rej_implicit_detached	ACCUMULATION	INTEGER	Number of intra-SGSN RAU failures due to implicitly detached.	M117440559.S117455319	Sum	hubnsepbh, hustrafbh, Sum
RAU_rej_LA_not_allow	ACCUMULATION	INTEGER	Number of intra-SGSN RAU failures due to location area not allowed.	M117440559.S117455316	Sum	hubnsepbh, hustrafbh, Sum
RAU_rej_No_suit_Cells	ACCUMULATION	INTEGER	Number of intra-SGSN RAU failures due to no suitable Cells in LA.	M117440559.S117455318	Sum	hubnsepbh, hustrafbh, Sum
RAU_rej_protocol_error	ACCUMULATION	INTEGER	Number of intra-SGSN RAU failures	M117440559.S117455320	Sum	hubnsepbh, hustrafbh

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			due to protocol error.			, Sum
RAU_rej_roam_not_allow	ACCUMULATION	INTEGER	Number of intra-SGSN RAU failures due to roaming not allowed in this Location area.	M117440559.S117455317	Sum	hubnsepbh, hustrafbh, Sum
RAU_request	ACCUMULATION	INTEGER	Number of intra-SGSN RAU requests within the SGSN area.	M117440559.S117455313	Sum	hubnsepbh, hustrafbh, Sum
RAU_success	ACCUMULATION	INTEGER	Number of intra-SGSN RAU successes within this SGSN area.	M117440559.S117455314	Sum	hubnsepbh, hustrafbh, Sum

7.4.5 BSS_NSE.Huawei.GPRS.PDP_Context_Activation_with_BSS

PDP Context Activation with BSS measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
_%_MS_init_IPV4_PDP_act_success	PERCENTAGE	FLOAT	Percentage of successful MS-initiated IPv4 PDP context primary activations in a specified BSS	100 * {MS_init_IPV4_PDP_act_success}/ {MS_init_IPV4_PDP_act}	Average	Average, hubnsepbh, hustrafbh
_%_MS_init_IPV6_PDP_act_success	PERCENTAGE	FLOAT	Percentage of successful MS-initiated IPv6 PDP context activations in a specified BSS	100 * {MS_init_IPV6_PDP_act_success}/ {MS_init_IPV6_PDP_act}	Average	Average, hubnsepbh, hustrafbh
_%_MS_init_PD	PERCENTAGE	FLOAT	Percentage of successful MS-	100 * {MS_init_PDP_ac	Average	Average, hubnsepb

P_act_success_with_dynamic_addr			initiated dynamic PDP context activations in a specified BSS	t_success_with_dynamic_addr}/{MS_init_PDP_act_with_dynamic_addr}		h, hustrafbh
_%_MS_init_PDP_act_success	PERCENTAGE	FLOAT	Percentage of successful MS-initiated PDP context activations in a specified BSS	100 * {MS_init_PDP_act_success}/{MS_init_PDP_act}	Average	Average, hubnsepbh, hustrafbh
_%_Network_init_IPV4_PDP_act_success	PERCENTAGE	FLOAT	Percentage of successful MS-initiated IPv4 PDP context network activations in a specified BSS	100 * {Network_init_IPV4_PDP_act_success}/{Network_init_IPV4_PDP_act}	Average	Average, hubnsepbh, hustrafbh
_%_Network_init_IPV6_PDP_act_success	PERCENTAGE	FLOAT	Percentage of successful MS-initiated IPv6 PDP context network activations in a specified BSS	100 * {Network_init_IPV6_PDP_act}/{Network_init_IPV6_PDP_act_success}	Average	Average, hubnsepbh, hustrafbh
_%_Network_init_PDP_act_success	PERCENTAGE	FLOAT	Percentage of successful MS-initiated PDP context network activations in a specified BSS	100 * {Network_init_PDP_act_success}/{Network_init_PDP_act}	Average	Average, hubnsepbh, hustrafbh
_%_Secondary_IPV4_PDP_act_success	PERCENTAGE	FLOAT	Percentage of successful secondary IPv4 PDP context activations in a specified BSS.	100 * {Secondary_IPV4_PDP_act_success}/{Secondary_IPV4_PDP_act}	Average	Average, hubnsepbh, hustrafbh

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_%_Secondary_IPV6_PDP_act_success	PERCENTAGE	FLOAT	Percentage of successful secondary IPv6 PDP context activations in a specified BSS.	100 * {Secondary_IPV6_PDP_act}/ {Secondary_IPV6_PDP_act_success}	Average	Average, hubnsepbh, hustrafbh
Foreign_subscribers_PDP_act_accept	ACCUMULATION	INTEGER	Number of ForeignMS activation accepts in 2G in a specified BSS	M117440596.S117459040	Sum	hubnsepbh, hustrafbh, Sum
Foreign_subscribers_PDP_act_reject	ACCUMULATION	INTEGER	Number of ForeignMS activation rejects in 2G in a specified BSS	M117440596.S117459041	Sum	hubnsepbh, hustrafbh, Sum
Foreign_subscribers_PDP_act_request	ACCUMULATION	INTEGER	Number of activation (including both primary activation and secondary PDP context activation) requests received from a ForeignMS in 2G in a specified BSS.	M117440596.S117459039	Sum	hubnsepbh, hustrafbh, Sum
MS_init_IPV4_PDP_act_success	ACCUMULATION	INTEGER	Number of successful MS-initiated IPv4 PDP context primary activations in a specified BSS	M117440596.S117459045	Sum	hubnsepbh, hustrafbh, Sum
MS_init_IPV4_PDP_act	ACCUMULATION	INTEGER	Number of MS-initiated IPv4 PDP context primary activation attempts in a	M117440596.S117459044	Sum	hubnsepbh, hustrafbh, Sum

			specified BSS			
MS_init_IPV4_PDP_ctx_act_reject	ACCUMULATION	INTEGER	Number of rejected MS-initiated IPv4 PDP context activations in a specified BSS.	M117440596.S117459058	Sum	hubnsepbh, hustrafbh, Sum
MS_init_IPV6_PDP_act_success	ACCUMULATION	INTEGER	Number of successful MS-initiated IPv6 PDP context activations in a specified BSS	M117440596.S117459051	Sum	hubnsepbh, hustrafbh, Sum
MS_init_IPV6_PDP_act	ACCUMULATION	INTEGER	Number of MS-initiated IPv6 PDP context activation attempts in a specified BSS	M117440596.S117459050	Sum	hubnsepbh, hustrafbh, Sum
MS_init_IPV6_PDP_ctx_act_reject	ACCUMULATION	INTEGER	Number of rejected MS-initiated IPv6 PDP context activations in a specified BSS.	M117440596.S117459059	Sum	hubnsepbh, hustrafbh, Sum
MS_init_PDP_act_reject_dyn_addr	ACCUMULATION	INTEGER	Number of reject of MS-initiated PDP context activation using dynamic PDP address in a specified BSS.	M117440596.S117459060	Sum	hubnsepbh, hustrafbh, Sum
MS_init_PDP_act_success_with_dynamic_addr	ACCUMULATION	INTEGER	Number of successful MS-initiated dynamic PDP context	M117440596.S117459018	Sum	hubnsepbh, hustrafbh, Sum

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			activations in a specified BSS			
MS_init_PDP_act_success	ACCUMULATION	INTEGER	Number of successful MS-initiated PDP context activations in a specified BSS	M117440596.S117459014	Sum	hubnsepbh, hustrafbh, Sum
MS_init_PDP_act_with_dynamic_addr	ACCUMULATION	INTEGER	Number of MS-initiated PDP context activation requests using dynamic address in a specified BSS.	M117440596.S117459017	Sum	hubnsepbh, hustrafbh, Sum
MS_init_PDP_act	ACCUMULATION	INTEGER	Number of MS-initiated PDP context activation attempts in a specified BSS	M117440596.S117459013	Sum	hubnsepbh, hustrafbh, Sum
Network_init_IPV4_PDP_act_success	ACCUMULATION	INTEGER	Number of successful MS-initiated IPv4 PDP context network activations in a specified BSS	M117440596.S117459047	Sum	hubnsepbh, hustrafbh, Sum
Network_init_IPV4_PDP_act	ACCUMULATION	INTEGER	Number of MS-initiated IPv4 PDP context network activation attempts in a specified BSS	M117440596.S117459046	Sum	hubnsepbh, hustrafbh, Sum
Network_init_IPV6_PDP_act_success	ACCUMULATION	INTEGER	Number of successful MS-initiated IPv6 PDP context network activations in a	M117440596.S117459053	Sum	hubnsepbh, hustrafbh, Sum

			specified BSS			
Network_init_IPV6_PDP_act	ACCUMULATION	INTEGER	Number of MS-initiated IPv6 PDP context network activation attempts in a specified BSS	M117440596.S117459052	Sum	hubnsepbh, hustrafbh, Sum
Network_init_PDP_act_success	ACCUMULATION	INTEGER	Number of successful MS-initiated PDP context network activations in a specified BSS	M117440596.S117459016	Sum	hubnsepbh, hustrafbh, Sum
Network_init_PDP_act	ACCUMULATION	INTEGER	Number of MS-initiated PDP context network activation attempts in a specified BSS	M117440596.S117459015	Sum	hubnsepbh, hustrafbh, Sum
PDP_act_fail_DNS_resolution_fail	ACCUMULATION	INTEGER	Number of activation failures in a specified BSS (due to DNS resolution failure).	M117440596.S117459027	Sum	hubnsepbh, hustrafbh, Sum
PDP_act_fail_Ge_fail	ACCUMULATION	INTEGER	Number of activation failures in a specified BSS (due to Ge interface failure).	M117440596.S117459028	Sum	hubnsepbh, hustrafbh, Sum
PDP_act_fail_lack_net_resource	ACCUMULATION	INTEGER	Number of activation	M117440596.S117459026	Sum	hubnsepbh,

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s			failures in a specified BSS (due to insufficient network resource).			hustrafbh, Sum
PDP_act_fail_missing_or_unknown_APN	ACCUMULATION	INTEGER	Number of activation failures in a specified BSS (due to unknown APN).	M117440596.S117459019	Sum	hubnsepbh, hustrafbh, Sum
PDP_act_fail_ODB	ACCUMULATION	INTEGER	Number of activation failures in a specified BSS (due to ODB).	M117440596.S117459042	Sum	hubnsepbh, hustrafbh, Sum
PDP_act_fail_QoS_negotiation_fail	ACCUMULATION	INTEGER	Number of activation failures in a specified BSS (due to QoS negotiation failure).	M117440596.S117459024	Sum	hubnsepbh, hustrafbh, Sum
PDP_act_fail_rejected_by_GGSN	ACCUMULATION	INTEGER	Number of activation failures in a specified BSS (due to GGSN reject).	M117440596.S117459025	Sum	hubnsepbh, hustrafbh, Sum
PDP_act_fail_service_not_supported	ACCUMULATION	INTEGER	Number of activation failures in a specified BSS (due to services not supported by the system).	M117440596.S117459022	Sum	hubnsepbh, hustrafbh, Sum
PDP_act_fail_service_unsubscribed	ACCUMULATION	INTEGER	Number of activation failures in a specified BSS	M117440596.S117459023	Sum	hubnsepbh, hustrafbh, Sum

			(due to unsubscribed service).			
PDP_act_fail_Ugbi_PDP_Cong	ACCUMULATION	INTEGER	Number of activation failures in a specified BSS (due to PDP congestion of UGBI)	M117440596.S117459029	Sum	hubnsepbh, hustrafbh, Sum
PDP_act_fail_Unknown_PDP_addr_or_type	ACCUMULATION	INTEGER	Number of activation failures in a specified BSS (due to unknown PDP address or type).	M117440596.S117459020	Sum	hubnsepbh, hustrafbh, Sum
PDP_act_fail_user_authentication_fail	ACCUMULATION	INTEGER	Number of activation failures in a specified BSS (due to subscriber authentication failure).	M117440596.S117459021	Sum	hubnsepbh, hustrafbh, Sum
PDP_act_reject	ACCUMULATION	INTEGER	Number of activation rejects in a specified BSS.	M117440596.S117459030	Sum	hubnsepbh, hustrafbh, Sum
PDP_ctx_act_fail_No_Reason	ACCUMULATION	INTEGER	2G PDP ctx act fail (Unspecified Reason) in BSS.	M117440596.S117459056	Sum	hubnsepbh, hustrafbh, Sum
PDP_ctx_sec_act_fail_No_Reason	ACCUMULATION	INTEGER	Number of secondary PDP context	M117440596.S117459057	Sum	hubnsepbh, hustrafbh

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			activation failures in a specified BSS (due to unspecified errors).			, Sum
PDP_fail_APN_Restrict_BSS	ACCUMULATION	INTEGER	Number of activation failures in a specified BSS (APN Restriction).	M117440596.S117459061	Sum	hubnsepbh, hustrafbh, Sum
Sec_PDP_act_fail_Ge_fail	ACCUMULATION	INTEGER	Number of secondary PDP context activation failures in a specified BSS (due to Ge interface failure).	M117440596.S117459036	Sum	hubnsepbh, hustrafbh, Sum
Sec_PDP_act_fail_GGSN_reject	ACCUMULATION	INTEGER	Number of secondary PDP context activation failures in a specified BSS (due to GGSN reject).	M117440596.S117459034	Sum	hubnsepbh, hustrafbh, Sum
Sec_PDP_act_fail_lack_net_resources	ACCUMULATION	INTEGER	Number of secondary PDP context activation failures in a specified BSS (due to insufficient network resource).	M117440596.S117459033	Sum	hubnsepbh, hustrafbh, Sum
Sec_PDP_act_fail_ODB	ACCUMULATION	INTEGER	Number of secondary PDP context activation	M117440596.S117459043	Sum	hubnsepbh, hustrafbh, Sum

			failures in a specified BSS (due to ODB).			
Sec_PDP_act_fail_Ugbi_PDP_Cong	ACCUMULATION	INTEGER	Number of secondary PDP context activation failures in a specified BSS (due to PDP congestion of UGBI)	M117440596.S117459037	Sum	hubnsepbh, hustrafbh, Sum
Sec_PDP_act_fail_unknown_PDP_ctx	ACCUMULATION	INTEGER	Number of secondary PDP context activation failures in a specified BSS (due to unknown PDP context)	M117440596.S117459035	Sum	hubnsepbh, hustrafbh, Sum
Sec_PDP_act_reject	ACCUMULATION	INTEGER	Number of secondary PDP context activation rejects in a specified BSS.	M117440596.S117459038	Sum	hubnsepbh, hustrafbh, Sum
Sec_PDP_act_success	ACCUMULATION	INTEGER	Number of successful secondary PDP context activations in a specified BSS.	M117440596.S117459032	Sum	hubnsepbh, hustrafbh, Sum
Sec_PDP_act	ACCUMULATION	INTEGER	Number of secondary PDP context activation requests in a	M117440596.S117459031	Sum	hubnsepbh, hustrafbh, Sum

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			specified BSS.			
Secondary_IPV4_PDP_act_success	ACCUMULATION	INTEGER	Number of successful secondary IPv4 PDP context activations in a specified BSS.	M117440596.S117459049	Sum	hubnsepbh, hustrafbh, Sum
Secondary_IPV4_PDP_act	ACCUMULATION	INTEGER	Number of secondary IPv4 PDP context activation requests in a specified BSS.	M117440596.S117459048	Sum	hubnsepbh, hustrafbh, Sum
Secondary_IPV6_PDP_act_success	ACCUMULATION	INTEGER	Number of successful secondary IPv6 PDP context activations in a specified BSS.	M117440596.S117459055	Sum	hubnsepbh, hustrafbh, Sum
Secondary_IPV6_PDP_act	ACCUMULATION	INTEGER	Number of secondary IPv6 PDP context activation requests in a specified BSS.	M117440596.S117459054	Sum	hubnsepbh, hustrafbh, Sum

7.4.6 BSS_NSE.Huawei.GPRS.Radio_Resource_with_BSS

Radio Resource with BSS measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
Attached_user_number_per_BSS	INTENSITY	INTEGER	Number of attached mobile users in specific BSS.	M117440561.S117455513	Average	Average, hubnsepbh, hustrafbh, Maximum, Minimum, Sum

7.4.7 BSS_NSE.Huawei.GPRS.SM_Resource_with_BSS

SM Resource with BSS measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
Activated_PDP_number_per_BSS	INTENSITY	INTEGER	Number of Active PDP Sessions	M117440597.S117459113	Average	Average, hubnsepbh, hustrafbh, Maximum, Minimum, Sum
Avg_act_PDP_Sessions_BACKGRND	INTENSITY	INTEGER	Number of Active PDP Sessions for the background QoS Class for Gtpr MSs in a specified BSS	M117440597.S117459117	Average	Average, hubnsepbh, hustrafbh, Maximum, Minimum, Sum
Avg_act_PDP_Sessions_CONV	INTENSITY	INTEGER	Number of Active PDP Sessions for the conversational QoS Class for Gtpr MSs in a specified BSS	M117440597.S117459115	Average	Average, hubnsepbh, hustrafbh, Maximum, Minimum, Sum
Avg_act_PDP_Sessions_INTERAC	INTENSITY	INTEGER	Number of Active PDP Sessions for the interactive QoS	M117440597.S117459114	Average	Average, hubnsepbh, hustrafbh

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			Class for Gtpr MSs in a specified BSS			, Maximum, Minimum, Sum
Avg_act_PDP_Sessions_streaming	INTENSITY	INTEGER	Number of Active PDP Sessions for the streaming QoS Class for Gtpr MSs in a specified BSS	M117440597.S117459116	Average	Average, hubnsepbh, hustrafbh, Maximum, Minimum, Sum

7.5 Cell Performance Indicators

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

- Cell.Huawei.GPRS.Attach_with_Cell
- Cell.Huawei.GPRS.BSSGP_with_Cell
- Cell.Huawei.GPRS.Gb_cell_update
- Cell.Huawei.GPRS.Gb_Mode_PDP_Context_Activation_with_Cell
- Cell.Huawei.GPRS.Inter_SGSN_RAU_with_Cell
- Cell.Huawei.GPRS.Intra_SGSN_RAU_with_Cell

7.5.1 Cell.Huawei.GPRS.Attach_with_Cell

Attach with Cell measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
_%_Combined_attach_accept	PERCENTAGE	FLOAT	Percentage of GPRS/IMSI attachment successes within the SGSN.	100 * {Combined_attach_accept}/ {Combined_attach_request}	Average	Average, hucpchbh, hustrafbh
_%_GPRS_attach_accept	PERCENTAGE	FLOAT	Percentage of GPRS attachment successes	100 * {GPRS_attach_accept}/ {GPRS_attach_req	Average	Average, hucpchbh, hustrafbh

			within the SGSN.	uest}		
Attach_reject_Ge_fail	ACCUMULATION	INTEGER	Number of GPRS attachment failures within SGSN due to Ge protocol error.	M117440568.S117456224	Sum	hucpchbh, hustrafbh, Sum
Attach_reject_GPRS_not_allowed_in_PLMN	ACCUMULATION	INTEGER	Number of GPRS attachment rejects due to GPRS service is not allowed in this PLMN.	M117440568.S117456216	Sum	hucpchbh, hustrafbh, Sum
Attach_reject_GPRS_service_not_allowed	ACCUMULATION	INTEGER	Number of GPRS attachment failures within SGSN due to GPRS services not allowed.	M117440568.S117456221	Sum	hucpchbh, hustrafbh, Sum
Attach_reject_Gr_fail	ACCUMULATION	INTEGER	Number of GPRS attachment failures within SGSN due to Gr protocol error.	M117440568.S117456223	Sum	hucpchbh, hustrafbh, Sum
Attach_reject_illegal_ME	ACCUMULATION	INTEGER	Number of GPRS attachment failures within SGSN due to illegal ME.	M117440568.S117456220	Sum	hucpchbh, hustrafbh, Sum
Attach_reject_LA_not_allowed	ACCUMULATION	INTEGER	Number of GPRS	M117440568.S117456217	Sum	hucpchbh,

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			attachment rejects due to Location Area not allowed.			hustrafbh, Sum
Attach_reject_no_suitable_Cells_in_LA	ACCUMULATION	INTEGER	Number of GPRS attachment failures within SGSN due to no suitable cells in LA.	M117440568.S117456219	Sum	hucpchbh, hustrafbh, Sum
Attach_reject_protocol_error	ACCUMULATION	INTEGER	Number of GPRS attachment failures within SGSN due to protocol error.	M117440568.S117456222	Sum	hucpchbh, hustrafbh, Sum
Attach_reject_roaming_not_allowed_in_LA	ACCUMULATION	INTEGER	Number of GPRS attachment failures within SGSN due to LA roaming restriction.	M117440568.S117456218	Sum	hucpchbh, hustrafbh, Sum
Com_attach_rej_Ge_fail	ACCUMULATION	INTEGER	Number of combined GPRS/IMSI attachment failures within SGSN due to Ge protocol error.	M117440568.S117456236	Sum	hucpchbh, hustrafbh, Sum
Com_attach_rej_GPRS_not_allow	ACCUMULATION	INTEGER	Number of combined GPRS/IMSI attachment rejects due to GPRS service is not allowed in this PLMN.	M117440568.S117456228	Sum	hucpchbh, hustrafbh, Sum
Com_attach_rej_GPRS_srvc_no	ACCUMULATION	INTEGER	Number of combined	M117440568.S117456233	Sum	hucpchbh,

t_allow			GPRS/IMSI attachment failures within SGSN due to GPRS services not allowed.			hustrafbh, Sum
Com_attach_rej_Gr_fail	ACCUMULATION	INTEGER	Number of combined GPRS/IMSI attachment failures within SGSN due to Gr protocol error.	M117440568.S117456235	Sum	hucpchbh, hustrafbh, Sum
Com_attach_rej_illegal_ME	ACCUMULATION	INTEGER	Number of combined GPRS/IMSI attachment failures within SGSN due to illegal ME.	M117440568.S117456232	Sum	hucpchbh, hustrafbh, Sum
Com_attach_rej_LA_not_allowed	ACCUMULATION	INTEGER	Number of combined GPRS/IMSI attachment rejects due to Location Area not allowed.	M117440568.S117456229	Sum	hucpchbh, hustrafbh, Sum
Com_attach_rej_no_suitable_Cells	ACCUMULATION	INTEGER	Number of combined GPRS/IMSI attachment failures within SGSN due to LA roaming restriction.	M117440568.S117456230	Sum	hucpchbh, hustrafbh, Sum
Com_attach_rej_protocol_error	ACCUMULATION	INTEGER	Number of combined	M117440568.S117456234	Sum	hucpchbh,

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			GPRS/IMSI attachment failures within SGSN due to protocol error.			hustrafbh, Sum
Com_attach_rej_roam_not_allow	ACCUMULATION	INTEGER	Number of combined GPRS/IMSI attachment failures within SGSN due to no suitable cells in LA.	M117440568.S117456231	Sum	hucpchbh, hustrafbh, Sum
Combined_attach_accept	ACCUMULATION	INTEGER	Number of GPRS/IMSI attachment successes within the SGSN.	M117440568.S117456226	Sum	hucpchbh, hustrafbh, Sum
Combined_attach_reject_illegal_MS	ACCUMULATION	INTEGER	Number of combined GPRS/IMSI attachment rejects due to illegal mobile station.	M117440568.S117456227	Sum	hucpchbh, hustrafbh, Sum
Combined_attach_request	ACCUMULATION	INTEGER	Number of combined GPRS/IMAI attachment requests within the SGSN.	M117440568.S117456225	Sum	hucpchbh, hustrafbh, Sum
GPRS_attach_acc_while_IMSI_att	ACCUMULATION	INTEGER	Number of IMSI-attached GPRS attachment successes within the SGSN.	M117440568.S117456240	Sum	hucpchbh, hustrafbh, Sum
GPRS_attach_accept	ACCUMULATION	INTEGER	Number of GPRS attachment	M117440568.S117456214	Sum	hucpchbh, hustrafbh

			successes within the SGSN.			, Sum
GPRS_Attach_reject_illegal_MS	ACCUMULATION	INTEGER	Number of GPRS attachment rejects due to illegal mobile station.	M117440568.S117456215	Sum	hucpchbh, hustrafbh, Sum
GPRS_attach_req_while_IMSI_att	ACCUMULATION	INTEGER	Number of IMSI-attached GPRS attachment requests within the SGSN.	M117440568.S117456239	Sum	hucpchbh, hustrafbh, Sum
GPRS_attach_request	ACCUMULATION	INTEGER	Number of GPRS attachment requests within the SGSN.	M117440568.S117456213	Sum	hucpchbh, hustrafbh, Sum
GPRS_IMSI_attach_fail_VLR_reject	ACCUMULATION	INTEGER	The GPRS attachment succeeds while the IMSI attachment fails (rejected by VLR).	M117440568.S117456237	Sum	hucpchbh, hustrafbh, Sum
GPRS_MSI_attach_fail_MSC_unreach	ACCUMULATION	INTEGER	The number of times GPRS attachment succeeds but IMSI attachment fails (MSC presently unreachable).	M117440568.S117456238	Sum	hucpchbh, hustrafbh, Sum
IMSI_att_reject_GPRS_not_allowed	ACCUMULATION	INTEGER	Number of IMSI-attached GPRS	M117440568.S117456242	Sum	hucpchbh, hustrafbh

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			attachment rejects due to GPRS service is not allowed in this PLMN.			, Sum
IMSI_att_reject_GPRS_srvc_not_allow	ACCUMULATION	INTEGER	Number of IMSI-attached GPRS attachment failures within SGSN due to GPRS services not allowed.	M117440568.S117456247	Sum	hucpchbh, hustrafbh, Sum
IMSI_att_reject_illegal_ME	ACCUMULATION	INTEGER	Number of IMSI-attached GPRS attachment failures within SGSN due to illegal ME.	M117440568.S117456246	Sum	hucpchbh, hustrafbh, Sum
IMSI_att_reject_illegal_MS	ACCUMULATION	INTEGER	Number of IMSI-attached GPRS attachment rejects due to illegal mobile station.	M117440568.S117456241	Sum	hucpchbh, hustrafbh, Sum
IMSI_att_reject_in_cell_Ge_fail	ACCUMULATION	INTEGER	Number of IMSI-attached GPRS attachment failures within SGSN due to Ge protocol error.	M117440568.S117456250	Sum	hucpchbh, hustrafbh, Sum
IMSI_att_reject_in_cell_Gr_fail	ACCUMULATION	INTEGER	Number of IMSI-attached GPRS attachment failures within SGSN due to Gr protocol error.	M117440568.S117456249	Sum	hucpchbh, hustrafbh, Sum

IMSI_att_reject_LA_not_allow	ACCUMULATION	INTEGER	Number of IMSI-attached GPRS attachment of HPLMN users rejects due to Location Area not allowed.	M117440568.S117456243	Sum	hucpchbh, hustrafbh, Sum
IMSI_att_reject_no_suitable_Cells	ACCUMULATION	INTEGER	Number of IMSI-attached GPRS attachment failures within SGSN due to no suitable Cells in LA.	M117440568.S117456245	Sum	hucpchbh, hustrafbh, Sum
IMSI_att_reject_protocol_error	ACCUMULATION	INTEGER	Number of IMSI-attached GPRS attachment failures within SGSN due to protocol error.	M117440568.S117456248	Sum	hucpchbh, hustrafbh, Sum
IMSI_att_reject_roam_not_allowed	ACCUMULATION	INTEGER	Number of IMSI-attached GPRS attachment of non-HPLMN users failures within SGSN due to LA roaming restriction.	M117440568.S117456244	Sum	hucpchbh, hustrafbh, Sum

7.5.2 Cell.Huawei.GPRS.BSSGP_with_Cell

BSSGP with Cell measurement

KPI	Type	Data	Description	Derivation	Default	Other

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		Type			Aggregator	Aggregators
BSSGP_pkts_dropped_due_BVC_overflow	ACCUMULATION	INTEGER	Total number of packets dropped due to BVC flow control (Cell Buffer Overflow).	M117440527.S117452130	Sum	hucpchbh, hustrafbh, Sum
BSSGP_pkts_dropped_due_MS_overflow	ACCUMULATION	INTEGER	Total number of packets dropped due to MS flow control (MS Buffer overflow).	M117440527.S117452131	Sum	hucpchbh, hustrafbh, Sum
Cell_block_ack_msg_sent_to_BSS	ACCUMULATION	INTEGER	Number of blocking response messages sent from the cell.	M117440527.S117452122	Sum	hucpchbh, hustrafbh, Sum
Cell_block_msg_rec_from_BSS	ACCUMULATION	INTEGER	Number of blocking messages received by the cell.	M117440527.S117452121	Sum	hucpchbh, hustrafbh, Sum
Cell_flow_control_msg_rec_from_BSS	ACCUMULATION	INTEGER	Number of flow control messages received by the cell.	M117440527.S117452119	Sum	hucpchbh, hustrafbh, Sum
Cell_flow_ctrl_ack_msg_sent_to_BSS	ACCUMULATION	INTEGER	Number of response messages for the flow control messages received by the cell.	M117440527.S117452120	Sum	hucpchbh, hustrafbh, Sum
Cell_radio_status_msg_rec_from_BSS	ACCUMULATION	INTEGER	Total number of radio status report messages received from BSS.	M117440527.S117452129	Sum	hucpchbh, hustrafbh, Sum

Cell_reset_ack_msg_rec_from_BSS	ACCUMULATION	INTEGER	Total number of received cell response messages.	M117440527.S117452128	Sum	hucpchbh, hustrafbh, Sum
Cell_reset_ack_msg_sent_to_BSS	ACCUMULATION	INTEGER	Reset response messages sent from the cell.	M117440527.S117452126	Sum	hucpchbh, hustrafbh, Sum
Cell_reset_msg_rec_from_BSS	ACCUMULATION	INTEGER	Total number of received cell reset messages.	M117440527.S117452127	Sum	hucpchbh, hustrafbh, Sum
Cell_reset_msg_sent_to_BSS	ACCUMULATION	INTEGER	Total number of reset messages sent from the cell.	M117440527.S117452125	Sum	hucpchbh, hustrafbh, Sum
Cell_unblock_ack_msg_sent_to_BSS	ACCUMULATION	INTEGER	Total number of responses of the cell to the unblocking messages.	M117440527.S117452124	Sum	hucpchbh, hustrafbh, Sum
Cell_unblock_msg_rec_from_BSS	ACCUMULATION	INTEGER	Number of unblocking messages received by the cell.	M117440527.S117452123	Sum	hucpchbh, hustrafbh, Sum
Data_pkts_from_NS_and_LLC	ACCUMULATION	INTEGER	Number of downlink and uplink data messages received by PTP.	M117440527.S117452115 + S117452116	Sum	hucpchbh, hustrafbh, Sum
DL_data_bytes_dropped_by_BSS	ACCUMULATION	INT8	Number of bytes of downlink data reported and dropped at the	M117440527.S117452118	Sum	hucpchbh, hustrafbh, Sum

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			user side.			
DL_data_kbytes_handled_by_PTP	ACCUMULATION	INT8	Total downlink data bytes handled by the cell.	M117440527.S117452135	Sum	hucpchbh, hustrafbh, Sum
DL_data_pkts_dropped_by_BSS	ACCUMULATION	INTEGER	Number of downlink data reported and dropped at the user side.	M117440527.S117452117	Sum	hucpchbh, hustrafbh, Sum
DL_data_pkts_handled_by_PTP	ACCUMULATION	INTEGER	Number of downlink data messages processed by PTP.	M117440527.S117452114	Sum	hucpchbh, hustrafbh, Sum
DL_data_pkts_rec_from_LLC	ACCUMULATION	INTEGER	Number of downlink messages received by PTP.	M117440527.S117452115	Sum	hucpchbh, hustrafbh, Sum
PDU_dropped_pkts_BVC_flowctrl	ACCUMULATION	INTEGER	Total number of packets dropped due to PDU lifetime timeout during BVC flow control.	M117440527.S117452132	Sum	hucpchbh, hustrafbh, Sum
PDU_dropped_pkts_during_MS_flow_ctrl	ACCUMULATION	INTEGER	Total number of packets dropped due to PDU lifetime timeout during MS flow control.	M117440527.S117452133	Sum	hucpchbh, hustrafbh, Sum
UL_data_kbytes_handled_by_PTP	ACCUMULATION	INT8	Total uplink data bytes handled by the cell.	M117440527.S117452134	Sum	hucpchbh, hustrafbh, Sum
UL_data_pkts_handled_by_PTP	ACCUMULATION	INTEGER	Number of uplink data messages processed by PTP.	M117440527.S117452113	Sum	hucpchbh, hustrafbh, Sum

UL_data_pkts_rec_from_NS	ACCUMULATION	INTEGER	Number of uplink data messages received by PTP.	M117440527.S117452116	Sum	hucpchbh, hustrafbh, Sum

7.5.3 Cell.Huawei.GPRS.Gb_cell_update

Gb mode cell update measurement per cell

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
Gb_in_cell_update_per_cell	ACCUMULATION	INTEGER	Gb mode incoming cell update times per cell	M117440682.S117471013	Sum	hucpchbh, hustrafbh
Gb_out_cell_update_per_cell	ACCUMULATION	INTEGER	Gb mode outgoing cell update times per cell	M117440682.S117471014	Sum	hucpchbh, hustrafbh

7.5.4 Cell.Huawei.GPRS.Gb_Mode_PDP_Context_Activation_with_Cell

Gb Mode PDP Context Activation with Cell measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
_%_MS_init_IPV4_PDP_act_success	PERCENTAGE	FLOAT	Percentage of successful MS-initiated IPv4 PDP context primary activations in a specified cell.	100 * {MS_init_IPV4_PDP_act_success}/ {MS_init_IPV4_PDP_act}	Average	Average, hucpchbh, hustrafbh
_%_MS_init_IP	PERCENTAGE	FLOAT	Percentage of successful MS-	100 * {MS_init_IPV6_P	Average	Average, hucpchb

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V6_PDP_act_success			initiated IPv6 PDP context primary activations in a specified cell.	DP_act_success}/ {MS_init_IPV6_PDP_act}		h, hustrafbh
_%_MS_init_PDP_act_success_dyn_addr	PERCENTAGE	FLOAT	Percentage of successful MS-initiated dynamic PDP context activations in a specified cell.	100 * {MS_init_PDP_act_success_dyn_addr}/ {MS_init_PDP_act_with_dyn_addr}	Average	Average, hucpchbh, hustrafbh
_%_MS_init_PDP_act_success	PERCENTAGE	FLOAT	Percentage of successful MS-initiated PDP context activations in a specified cell.	100 * {MS_init_PDP_act_success}/ {MS_init_PDP_act}	Average	Average, hucpchbh, hustrafbh
_%_Network_init_IPV4_PDP_act_success	PERCENTAGE	FLOAT	Percentage of successful MS-initiated IPv4 PDP context network activations in a specified cell.	100 * {Network_init_IPV4_PDP_act_success}/ {Network_init_IPV4_PDP_act}	Average	Average, hucpchbh, hustrafbh
_%_Network_init_IPV6_PDP_act_success	PERCENTAGE	FLOAT	Percentage of successful MS-initiated IPv6 PDP context network activations in a specified cell.	100 * {Network_init_IPV6_PDP_act_success}/ {Network_init_IPV6_PDP_act}	Average	Average, hucpchbh, hustrafbh
_%_Network_init_PDP_act_success	PERCENTAGE	FLOAT	Percentage of successful MS-initiated PDP context network activations in a specified cell.	100 * {Network_init_PDP_act_success}/ {Network_init_PDP_act}	Average	Average, hucpchbh, hustrafbh
_%_Sec_IPV4_PDP_act_success	PERCENTAGE	FLOAT	Percentage of successful secondary IPv4 PDP context	100 * {Sec_IPV4_PDP_act_success}/ {Sec_IPV4_PDP_	Average	Average, hucpchbh, hustrafbh

			activations in a specified cell	act}		
_%_Sec_IPV6_PDP_act_success	PERCENTAGE	FLOAT	Percentage of successful secondary IPv6 PDP context activations in a specified cell	100 * {Sec_IPV6_PDP_act_success}/ {Sec_IPV6_PDP_act}	Average	Average, hucpchbh, hustrafbh
_%_Sec_PDP_act_success	PERCENTAGE	FLOAT	Percentage of successful secondary PDP context activations in a specified cell	100 * {Sec_PDP_act_success}/ {Sec_PDP_act}	Average	Average, hucpchbh, hustrafbh
_2G_PDP_fail_APN_Restrict_CELL	ACCUMULATION	INTEGER	Number of PDP activation failures in a specified cell (due to APN Restriction).	M117440599.S117459361	Sum	hucpchbh, hustrafbh, Sum
Foreign_subscribers_PDP_act_accept	ACCUMULATION	INTEGER	Number of ForeignMS activation accepts in 2G in a specified cell	M117440599.S117459340	Sum	hucpchbh, hustrafbh, Sum
Foreign_subscribers_PDP_act_reject	ACCUMULATION	INTEGER	Number of ForeignMS activation rejects in 2G in a specified cell	M117440599.S117459341	Sum	hucpchbh, hustrafbh, Sum
Foreign_subscribers_PDP_act_request	ACCUMULATION	INTEGER	Number of activation (including both primary activation and secondary PDP context activation)	M117440599.S117459339	Sum	hucpchbh, hustrafbh, Sum

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			requests received from a ForeignMS in 2G in a specified cell.			
MS_init_IPV4_PDP_act_success	ACCUMULATION	INTEGER	Number of successful MS-initiated IPv4 PDP context primary activations in a specified cell.	M117440599.S117459345	Sum	hucpchbh, hustrafbh, Sum
MS_init_IPV4_PDP_act	ACCUMULATION	INTEGER	Number of MS-initiated IPv4 PDP context primary activation attempts in a specified cell.	M117440599.S117459344	Sum	hucpchbh, hustrafbh, Sum
MS_init_IPV4_PDP_ctx_act_rej	ACCUMULATION	INTEGER	Number of rejected MS-initiated IPv4 PDP context activations in a specified cell.	M117440599.S117459358	Sum	hucpchbh, hustrafbh, Sum
MS_init_IPV6_PDP_act_success	ACCUMULATION	INTEGER	Number of successful MS-initiated IPv6 PDP context primary activations in a specified cell.	M117440599.S117459351	Sum	hucpchbh, hustrafbh, Sum
MS_init_IPV6_PDP_act	ACCUMULATION	INTEGER	Number of MS-initiated IPv6 PDP context primary activation attempts in a specified cell.	M117440599.S117459350	Sum	hucpchbh, hustrafbh, Sum
MS_init_IPV6_PDP_ctx_act_rej	ACCUMULATION	INTEGER	Number of rejected MS-initiated IPv6	M117440599.S117459359	Sum	hucpchbh, hustrafbh

			PDP context activations in a specified cell.			, Sum
MS_init_PDP_act_reject_dyn_addr	ACCUMULATION	INTEGER	Number of reject of MS-initiated PDP context activation using dynamic PDP address in a specified cell.	M117440599.S117459360	Sum	hucpchbh, hustrafbh, Sum
MS_init_PDP_act_success_dyn_addr	ACCUMULATION	INTEGER	Number of successful MS-initiated dynamic PDP context activations in a specified cell.	M117440599.S117459318	Sum	hucpchbh, hustrafbh, Sum
MS_init_PDP_act_success	ACCUMULATION	INTEGER	Number of successful MS-initiated PDP context activations in a specified cell.	M117440599.S117459314	Sum	hucpchbh, hustrafbh, Sum
MS_init_PDP_act_with_dyn_addr	ACCUMULATION	INTEGER	Number of MS-initiated session activation requests using dynamic address in a specified cell.	M117440599.S117459317	Sum	hucpchbh, hustrafbh, Sum
MS_init_PDP_act	ACCUMULATION	INTEGER	Number of MS-initiated PDP context activation attempts in a specified cell.	M117440599.S117459313	Sum	hucpchbh, hustrafbh, Sum
Network_init_I	ACCUMULA	INTEG	Number of	M117440599.S117	Sum	hucpchb

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PV4_PDP_act_success	TION	ER	successful MS-initiated IPv4 PDP context network activations in a specified cell.	459347		h, hustrafbh, Sum
Network_init_IPV4_PDP_act	ACCUMULATION	INTEGER	Number of MS-initiated IPv4 PDP context network activation attempts in a specified cell.	M117440599.S117459346	Sum	hucpchbh, hustrafbh, Sum
Network_init_IPV6_PDP_act_success	ACCUMULATION	INTEGER	Number of successful MS-initiated IPv6 PDP context network activations in a specified cell.	M117440599.S117459353	Sum	hucpchbh, hustrafbh, Sum
Network_init_IPV6_PDP_act	ACCUMULATION	INTEGER	Number of MS-initiated IPv6 PDP context network activation attempts in a specified cell.	M117440599.S117459352	Sum	hucpchbh, hustrafbh, Sum
Network_init_PDP_act_success	ACCUMULATION	INTEGER	Number of successful MS-initiated PDP context network activations in a specified cell.	M117440599.S117459316	Sum	hucpchbh, hustrafbh, Sum
Network_init_PDP_act	ACCUMULATION	INTEGER	Number of MS-initiated PDP context network activation attempts in a specified cell.	M117440599.S117459315	Sum	hucpchbh, hustrafbh, Sum
PDP_act_fail_DNS_resolution_fail	ACCUMULATION	INTEGER	Number of activation failures in a	M117440599.S117459327	Sum	hucpchbh, hustrafbh

			specified cell (due to DNS resolution failure).			, Sum
PDP_act_fail_Ge_fail	ACCUMULATION	INTEGER	Number of activation failures in a specified cell (due to Ge interface failure).	M117440599.S117459328	Sum	hucpchbh, hustrafbh, Sum
PDP_act_fail_lack_net_resources	ACCUMULATION	INTEGER	Number of activation failures in a specified cell (due to insufficient network resource).	M117440599.S117459326	Sum	hucpchbh, hustrafbh, Sum
PDP_act_fail_missing_or_unkonwn_APN	ACCUMULATION	INTEGER	Number of activation failures in a specified cell (due to unknown APN)	M117440599.S117459319	Sum	hucpchbh, hustrafbh, Sum
PDP_act_fail_ODB	ACCUMULATION	INTEGER	Number of activation failures in a specified cell (due to ODB).	M117440599.S117459342	Sum	hucpchbh, hustrafbh, Sum
PDP_act_fail_QoS_negotiation_fail	ACCUMULATION	INTEGER	Number of activation failures in a specified cell (due to QoS negotiation failure).	M117440599.S117459324	Sum	hucpchbh, hustrafbh, Sum
PDP_act_fail_re	ACCUMULA	INTEG	Number of	M117440599.S117	Sum	hucpchb

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jected_by_GGSN	TION	ER	activation failures in a specified cell (due to GGSN reject)	459325		h, hustrafbh, Sum
PDP_act_fail_service_not_supported	ACCUMULATION	INTEGER	Number of activation failures in a specified cell (due to services not supported)	M117440599.S117459322	Sum	hucpchbh, hustrafbh, Sum
PDP_act_fail_service_unsubscribed	ACCUMULATION	INTEGER	Number of activation failures in a specified cell (due to un-subscribed service).	M117440599.S117459323	Sum	hucpchbh, hustrafbh, Sum
PDP_act_fail_Ugbi_PDP_Cong	ACCUMULATION	INTEGER	Number of activation failures in a specified cell (due to PDP congestion of UGBI)	M117440599.S117459329	Sum	hucpchbh, hustrafbh, Sum
PDP_act_fail_Unkown_PDP	ACCUMULATION	INTEGER	Number of activation failures in a specified cell (due to unknown PDP address or type)	M117440599.S117459320	Sum	hucpchbh, hustrafbh, Sum
PDP_act_fail_user_auth_fail	ACCUMULATION	INTEGER	Number of activation failures in a specified cell (due to subscriber authentication failure).	M117440599.S117459321	Sum	hucpchbh, hustrafbh, Sum
PDP_act_reject	ACCUMULATION	INTEGER	Number of activation	M117440599.S117459330	Sum	hucpchbh,

			rejects in a specified cell			hustrafbh, Sum
PDP_ctx_act_fail_Unspecified_Reason	ACCUMULATION	INTEGER	2G PDP ctx act fail (Unspecified Reason) in a specified cell.	M117440599.S117459356	Sum	hucpchbh, hustrafbh, Sum
PDP_ctx_sec_act_fail_No_Reason	ACCUMULATION	INTEGER	2G PDP ctx sec act fail (Unspecified Reason) in a specified cell.	M117440599.S117459357	Sum	hucpchbh, hustrafbh, Sum
Sec_IPV4_PDP_act_success	ACCUMULATION	INTEGER	Number of successful secondary IPv4 PDP context activations in a specified cell	M117440599.S117459349	Sum	hucpchbh, hustrafbh, Sum
Sec_IPV4_PDP_act	ACCUMULATION	INTEGER	Number of secondary IPv4 PDP context activation requests in a specified cell	M117440599.S117459348	Sum	hucpchbh, hustrafbh, Sum
Sec_IPV6_PDP_act_success	ACCUMULATION	INTEGER	Number of successful secondary IPv6 PDP context activations in a specified cell	M117440599.S117459355	Sum	hucpchbh, hustrafbh, Sum
Sec_IPV6_PDP_act	ACCUMULATION	INTEGER	Number of secondary IPv6 PDP context activation requests in a specified cell	M117440599.S117459354	Sum	hucpchbh, hustrafbh, Sum
Sec_PDP_act_f	ACCUMULA	INTEG	Number of	M117440599.S117	Sum	hucpchb

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ail_Ge_fail	TION	ER	secondary PDP context activation failures in a specified cell (due to Ge interface failure).	459336		h, hustrafbh, Sum
Sec_PDP_act_fail_GGSN_reject	ACCUMULATION	INTEGER	Number of secondary PDP context activation failures in a specified cell (due to GGSN reject)	M117440599.S117459334	Sum	hucpchbh, hustrafbh, Sum
Sec_PDP_act_fail_lack_net_resources	ACCUMULATION	INTEGER	Number of secondary PDP context activation failures in a specified cell (due to insufficient network resource).	M117440599.S117459333	Sum	hucpchbh, hustrafbh, Sum
Sec_PDP_act_fail_ODB	ACCUMULATION	INTEGER	Number of secondary PDP context activation failures in a specified cell (due to ODB).	M117440599.S117459343	Sum	hucpchbh, hustrafbh, Sum
Sec_PDP_act_fail_Ugbi_PDP_Cong	ACCUMULATION	INTEGER	Number of secondary PDP context activation failures in a specified cell (due to PDP congestion of UGBI)	M117440599.S117459337	Sum	hucpchbh, hustrafbh, Sum
Sec_PDP_act_f	ACCUMULA	INTEG	Number of	M117440599.S117	Sum	hucpchb

ail_unkown_PDP_ctx	TION	ER	secondary PDP context activation failures in a specified cell (due to unknown PDP context)	459335		h, hustrafbh, Sum
Sec_PDP_act_reject	ACCUMULATION	INTEGER	Number of secondary PDP context activation rejects in a specified cell	M117440599.S117459338	Sum	hucpchbh, hustrafbh, Sum
Sec_PDP_act_success	ACCUMULATION	INTEGER	Number of successful secondary PDP context activations in a specified cell	M117440599.S117459332	Sum	hucpchbh, hustrafbh, Sum
Sec_PDP_act	ACCUMULATION	INTEGER	Number of secondary PDP context activation requests in a specified cell	M117440599.S117459331	Sum	hucpchbh, hustrafbh, Sum

7.5.5 Cell.Huawei.GPRS.Inter_SGSN_RAU_with_Cell

Inter SGSN RAU with Cell measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
_%_Com_RAU_success	PERCENTAGE	FLOAT	Percentage of successful combined inter-SGSN RAU updates.	100 * {Com_RAU_success}/ {Com_RAU_request}	Average	Average, hucpchbh, hustrafbh

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_%_RAU_success	PERCENTAGE	FLOAT	Percentage of inter-SGSN RAU successes within this SGSN area.	100 * {RAU_success}/ {RAU_request}	Average	Average, hucpchbh, hustrafbh
Com_RAU_reject_Ge_fail	ACCUMULATION	INTEGER	Number of inter-SGSN combined RA/ LA update failures due to Ge protocol error.	M117440570.S117456438	Sum	hucpchbh, hustrafbh, Sum
Com_RAU_reject_GPRS_srvc_not_allow	ACCUMULATION	INTEGER	Number of inter-SGSN combined RA/ LA update failures due to illegal ME.	M117440570.S117456434	Sum	hucpchbh, hustrafbh, Sum
Com_RAU_reject_Gr_fail	ACCUMULATION	INTEGER	Number of inter-SGSN combined RA/ LA update failures due to Gr protocol error.	M117440570.S117456437	Sum	hucpchbh, hustrafbh, Sum
Com_RAU_reject_illegal_ME	ACCUMULATION	INTEGER	Number of inter-SGSN combined RA/ LA update failures due to illegal ME.	M117440570.S117456433	Sum	hucpchbh, hustrafbh, Sum
Com_RAU_reject_illegal_MS	ACCUMULATION	INTEGER	Number of inter-SGSN combined RA/ LA update failures due to illegal mobile station.	M117440570.S117456428	Sum	hucpchbh, hustrafbh, Sum
Com_RAU_reject_implicitly_detached	ACCUMULATION	INTEGER	Number of inter-SGSN combined RA/ LA update	M117440570.S117456435	Sum	hucpchbh, hustrafbh, Sum

			failures due to GPRS service not allowed.			
Com_RAU_reject_LA_not_allowed	ACCUMULATION	INTEGER	Number of inter-SGSN combined RA/ LA update failures due to location area not allowed.	M117440570.S117456430	Sum	hucpchbh, hustrafbh, Sum
Com_RAU_reject_no_suitable_Cells	ACCUMULATION	INTEGER	Number of inter-SGSN combined RA/ LA update failures due to no suitable cells in LA.	M117440570.S117456432	Sum	hucpchbh, hustrafbh, Sum
Com_RAU_reject_protocol_error	ACCUMULATION	INTEGER	Number of inter-SGSN combined RA/ LA update failures due to protocol error.	M117440570.S117456436	Sum	hucpchbh, hustrafbh, Sum
Com_RAU_reject_roam_not_allow	ACCUMULATION	INTEGER	Number of inter-SGSN combined RA/ LA update failures due to roaming not allowed in this Location area.	M117440570.S117456431	Sum	hucpchbh, hustrafbh, Sum
Com_RAU_reject_serv_not_allow	ACCUMULATION	INTEGER	Number of inter-SGSN combined RA/ LA update failures due to GPRS service not allowed in	M117440570.S117456429	Sum	hucpchbh, hustrafbh, Sum

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			this PLMN.			
Com_RAU_request	ACCUMULATION	INTEGER	Number of inter-SGSN combined RA/ LA update requests.	M117440570.S117456426	Sum	hucpchbh, hustrafbh, Sum
Com_RAU_success	ACCUMULATION	INTEGER	Number of successful combined inter-SGSN RAU updates.	M117440570.S117456427	Sum	hucpchbh, hustrafbh, Sum
InterSGRAU_out_rej_per_cell	ACCUMULATION	INTEGER	Number of inter-SGSN RAU outgoing failes within the SGSN area.	M117440570.S117456445	Sum	hucpchbh, hustrafbh, Sum
InterSGRAU_out_succ_per_cell	ACCUMULATION	INTEGER	Number of inter-SGSN RAU outgoing successes within the SGSN area.	M117440570.S117456444	Sum	hucpchbh, hustrafbh, Sum
RAU_accept_LAU_reject_MSC_unreach	ACCUMULATION	INTEGER	Number of times RAU is accepted but LAU fails due to MSC temporarily unreachable in the process of combined inter-SGSN updates.	M117440570.S117456439	Sum	hucpchbh, hustrafbh, Sum
RAU_accept_LAU_reject_VLR_reject	ACCUMULATION	INTEGER	Number of times RAU is accepted but LAU fails due to VLR reject in the process of combined inter-SGSN updates.	M117440570.S117456440	Sum	hucpchbh, hustrafbh, Sum

RAU_complete_msg_rec	ACCUMULATION	INTEGER	Number of times inter-SGSN RAU is completed.	M117440570.S117456441	Sum	hucpchbh, hustrafbh, Sum
RAU_reject_Ge_fail	ACCUMULATION	INTEGER	Number of inter-SGSN RAU failures due to Ge protocol error.	M117440570.S117456425	Sum	hucpchbh, hustrafbh, Sum
RAU_reject_GPRS_service_not_allowed	ACCUMULATION	INTEGER	Number of inter-SGSN RAU failures due to GPRS service not allowed.	M117440570.S117456421	Sum	hucpchbh, hustrafbh, Sum
RAU_reject_Gr_fail	ACCUMULATION	INTEGER	Number of inter-SGSN RAU failures due to Gr protocol error.	M117440570.S117456424	Sum	hucpchbh, hustrafbh, Sum
RAU_reject_illegal_ME	ACCUMULATION	INTEGER	Number of inter-SGSN RAU failures due to illegal ME.	M117440570.S117456420	Sum	hucpchbh, hustrafbh, Sum
RAU_reject_illegal_MS	ACCUMULATION	INTEGER	Number of inter-SGSN RAU failures due to illegal mobile station.	M117440570.S117456415	Sum	hucpchbh, hustrafbh, Sum
RAU_reject_implicitly_detached	ACCUMULATION	INTEGER	Number of inter-SGSN RAU failures due to implicitly detached.	M117440570.S117456422	Sum	hucpchbh, hustrafbh, Sum
RAU_reject_LA	ACCUMULA	INTEG	Number of	M117440570.S117	Sum	hucpchb

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_not_allowed	TION	ER	inter-SGSN RAU failures due to location area not allowed.	456417		h, hustrafbh, Sum
RAU_reject_no_suitable_Cells_in_LA	ACCUMULATION	INTEGER	Number of inter-SGSN RAU failures due to no suitable cells in LA.	M117440570.S117456419	Sum	hucpchbh, hustrafbh, Sum
RAU_reject_protocol_error	ACCUMULATION	INTEGER	Number of inter-SGSN RAU failures due to protocol error.	M117440570.S117456423	Sum	hucpchbh, hustrafbh, Sum
RAU_reject_roam_not_allowed_in_LA	ACCUMULATION	INTEGER	Number of inter-SGSN RAU failures due to roaming not allowed in this Location area.	M117440570.S117456418	Sum	hucpchbh, hustrafbh, Sum
RAU_reject_serv_not_allow_this_PLMN	ACCUMULATION	INTEGER	Number of inter-SGSN RAU failures due to GPRS service not allowed in this PLMN.	M117440570.S117456416	Sum	hucpchbh, hustrafbh, Sum
RAU_request	ACCUMULATION	INTEGER	Number of inter-SGSN RAU requests within the SGSN area.	M117440570.S117456413	Sum	hucpchbh, hustrafbh, Sum
RAU_success	ACCUMULATION	INTEGER	Number of inter-SGSN RAU successes within this SGSN area.	M117440570.S117456414	Sum	hucpchbh, hustrafbh, Sum

7.5.6 Cell.Huawei.GPRS.Intra_SGSN_RAU_with_Cell

Intra SGSN RAU with Cell measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
_%_Com_RAU_success	PERCENTAGE	FLOAT	Percentage of successful combined intra-SGSN RAU updates.	100 * {Com_RAU_success}/ {Com_RAU_request}	Average	Average, hucpchbh, hustrafbh
_%_RAU_success	PERCENTAGE	FLOAT	Percentage of intra-SGSN RAU successes within this SGSN area.	100 * {RAU_success}/ {RAU_request}	Average	Average, hucpchbh, hustrafbh
Com_RAU_reject_Ge_fail	ACCUMULATION	INTEGER	Number of intra-SGSN combined RA/LA update failures due to Ge protocol error.	M117440569.S117456332	Sum	hucpchbh, hustrafbh, Sum
Com_RAU_reject_Gr_fail	ACCUMULATION	INTEGER	Number of intra-SGSN combined RA/LA update failures due to Gr protocol error.	M117440569.S117456331	Sum	hucpchbh, hustrafbh, Sum
Com_RAU_reject_illegal_MS	ACCUMULATION	INTEGER	Number of intra-SGSN combined RA/LA update failures due to illegal mobile station.	M117440569.S117456325	Sum	hucpchbh, hustrafbh, Sum
Com_RAU_rej	ACCUMULA	INTEG	Number of	M117440569.S117	Sum	hucpchb

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ect_implicitly_detached	TION	ER	intra-SGSN combined RA/LA update failures due to implicitly detached.	456329		h, hustrafbh, Sum
Com_RAU_reject_LA_not_allowed	ACCUMULATION	INTEGER	Number of intra-SGSN combined RA/LA update failures due to location area not allowed.	M117440569.S117456326	Sum	hucpchbh, hustrafbh, Sum
Com_RAU_reject_no_suitable_Cells	ACCUMULATION	INTEGER	Number of intra-SGSN combined RA/LA update failures due to no suitable cells in LA.	M117440569.S117456328	Sum	hucpchbh, hustrafbh, Sum
Com_RAU_reject_protocol_error	ACCUMULATION	INTEGER	Number of intra-SGSN combined RA/LA update failures due to protocol error.	M117440569.S117456330	Sum	hucpchbh, hustrafbh, Sum
Com_RAU_reject_roaming_not_allow	ACCUMULATION	INTEGER	Number of intra-SGSN combined RA/LA update failures due to roaming not allowed in this Location area.	M117440569.S117456327	Sum	hucpchbh, hustrafbh, Sum
Com_RAU_request	ACCUMULATION	INTEGER	Number of intra-SGSN combined RA/LA update requests.	M117440569.S117456323	Sum	hucpchbh, hustrafbh, Sum
Com_RAU_success	ACCUMULATION	INTEGER	Number of successful combined intra-	M117440569.S117456324	Sum	hucpchbh, hustrafbh

			SGSN RAU updates.			, Sum
RAU_accept_LAU_reject_MSC_unreach	ACCUMULATION	INTEGER	Number of times RAU is accepted but LAU fails due to MSC temporarily unreachable in the process of combined intra-SGSN updates.	M117440569.S117456333	Sum	hucpchbh, hustrafbh, Sum
RAU_accept_LAU_reject_VLR_reject	ACCUMULATION	INTEGER	Number of times RAU is accepted but LAU fails due to VLR reject in the process of combined intra-SGSN updates.	M117440569.S117456334	Sum	hucpchbh, hustrafbh, Sum
RAU_complete_message_rec	ACCUMULATION	INTEGER	Number of times intra-SGSN RAU is completed .	M117440569.S117456335	Sum	hucpchbh, hustrafbh, Sum
RAU_reject_Ge_fail	ACCUMULATION	INTEGER	Number of intra-SGSN RAU failures due to Ge protocol error.	M117440569.S117456322	Sum	hucpchbh, hustrafbh, Sum
RAU_reject_Gr_fail	ACCUMULATION	INTEGER	Number of intra-SGSN RAU failures due to Gr protocol error.	M117440569.S117456321	Sum	hucpchbh, hustrafbh, Sum
RAU_reject_illegal_MS	ACCUMULATION	INTEGER	Number of intra-SGSN RAU failures	M117440569.S117456315	Sum	hucpchbh, hustrafbh

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			due to illegal mobile station.			, Sum
RAU_reject_implicitly_detached	ACCUMULATION	INTEGER	Number of intra-SGSN RAU failures due to implicitly detached.	M117440569.S117456319	Sum	hucpchbh, hustrafbh, Sum
RAU_reject_LA_not_allowed	ACCUMULATION	INTEGER	Number of intra-SGSN RAU failures due to location area not allowed.	M117440569.S117456316	Sum	hucpchbh, hustrafbh, Sum
RAU_reject_no_suitable_Cells	ACCUMULATION	INTEGER	Number of intra-SGSN RAU failures due to no suitable cells in LA.	M117440569.S117456318	Sum	hucpchbh, hustrafbh, Sum
RAU_reject_protocol_error	ACCUMULATION	INTEGER	Number of intra-SGSN RAU failures due to protocol error.	M117440569.S117456320	Sum	hucpchbh, hustrafbh, Sum
RAU_reject_roaming_not_allow	ACCUMULATION	INTEGER	Number of intra-SGSN RAU failures due to roaming not allowed in this Location area.	M117440569.S117456317	Sum	hucpchbh, hustrafbh, Sum
RAU_request	ACCUMULATION	INTEGER	Number of intra-SGSN RAU requests within the SGSN area.	M117440569.S117456313	Sum	hucpchbh, hustrafbh, Sum
RAU_success	ACCUMULATION	INTEGER	Number of intra-SGSN RAU successes within this	M117440569.S117456314	Sum	hucpchbh, hustrafbh, Sum

			SGSN area.			

7.6 CG_IP_Port Performance Indicators

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

- CG_IP_Port.Huawei.GPRS.Ga_Interface

7.6.1 CG_IP_Port.Huawei.GPRS.Ga_Interface

Ga Interface measurement

The performance data measurements for this KPI group are recorded against the combination of CG_IP_Port and SGSN (sgsn_id) .

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
CDR_Transfer_Fail_CDR_decoding_err	ACCUMULATION	INTEGER	Number of failures in transmitting CDRs to the CG due to the error in decoding.	M117440513.S117450741	Sum	Sum
CDR_Transfer_Fail_dup_req_fulfil	ACCUMULATION	INTEGER	Number of failures in transmitting CDRs to the CG due to that the duplicated request is fulfilled.	M117440513.S117450743	Sum	Sum
CDR_Transfer_Fail_Invalid_format	ACCUMULATION	INTEGER	Number of failures in transmitting CDRs to the CG due to that the message format is invalid.	M117440513.S117450738	Sum	Sum

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CDR_Transfer_Fail_Mand_IE_incorr	ACCUMULATION	INTEGER	Number of failures in transmitting CDRs to the CG due to the error with the mandatory IE.	M117440513.S117450735	Sum	Sum
CDR_Transfer_Fail_Mand_IE_miss	ACCUMULATION	INTEGER	Number of failures in transmitting CDRs to the CG due to the missing of the mandatory IE.	M117440513.S117450736	Sum	Sum
CDR_Transfer_Fail_No_Res_Avail	ACCUMULATION	INTEGER	Number of failures in transmitting CDRs to the CG due to that no resource is available.	M117440513.S117450732	Sum	Sum
CDR_Transfer_Fail_Opt_IE_incorr	ACCUMULATION	INTEGER	Number of failures in transmitting CDRs to the CG due to the error with the optional IE.	M117440513.S117450737	Sum	Sum
CDR_Transfer_Fail_Req_not_fulfil	ACCUMULATION	INTEGER	Number of failures in transmitting CDRs to the CG due to that the request is not fulfilled.	M117440513.S117450740	Sum	Sum
CDR_Transfer_Fail_request_fulfil	ACCUMULATION	INTEGER	Number of failures in transmitting CDRs to the CG due to that the request is fulfilled.	M117440513.S117450742	Sum	Sum

CDR_Transfer_Fail_Srvc_not_supp	ACCUMULATION	INTEGER	Number of failures in transmitting CDRs to the CG due to that the service is not supported.	M117440513.S117450733	Sum	Sum
CDR_Transfer_Fail_Sys_Fail	ACCUMULATION	INTEGER	Number of failures in transmitting CDRs to the CG due to the system failure.	M117440513.S117450734	Sum	Sum
CDR_Transfer_Fail_Ver_not_supp	ACCUMULATION	INTEGER	Number of failures in transmitting CDRs to the CG due to that the version is not supported.	M117440513.S117450739	Sum	Sum
CDR_Transfer_Req_Cancel_cmd	ACCUMULATION	INTEGER	Number of requests delivered to the CDR transmitting band of the CG for canceling the command word.	M117440513.S117450729	Sum	Sum
CDR_Transfer_Req_Release_cmd	ACCUMULATION	INTEGER	Number of requests delivered to the CDR transmitting band of the CG for releasing the command word.	M117440513.S117450730	Sum	Sum
CDR_Transfer_Req_Send_cm	ACCUMULATION	INTEGER	Number of requests	M117440513.S117450727	Sum	Sum

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d			delivered to the CDR transmitting band of the CG for transmitting the command word.			
CDR_Transfer_Req_Send_Dup_cmd	ACCUMULATION	INTEGER	Number of requests delivered to the CDR transmitting band of the CG for delivering the possibly duplicated command word.	M117440513.S117450728	Sum	Sum
CDR_Transfer_Success	ACCUMULATION	INTEGER	Number of successes in transmitting CDRs to the CG.	M117440513.S117450731	Sum	Sum
CDRs_sent_to_CG	ACCUMULATION	INTEGER	Number of CDRs the SGSN delivers to the CG.	M117440513.S117450717	Sum	Sum
CG_redirection_fail	ACCUMULATION	INTEGER	Number of failures of the SGSN redirecting the CDR to other CGs.	M117440513.S117450714	Sum	Sum
Illegal_message_recv_from_CG	ACCUMULATION	INTEGER	Number of invalid messages the SGSN receives from the CG.	M117440513.S117450715	Sum	Sum
Kbytes_of_CDRs_sent_to_CG	ACCUMULATION	INT8	The length of the CDR the SGSN delivers to the CG (unit: Kbyte).	M117440513.S117450722	Sum	Sum

LCS_MO_CDRs_sent_to_CG	ACCUMULATION	INTEGER	Number of LCS-MO-CDRs the SGSN delivers to the CG.	M117440513.S117450725	Sum	Sum
LCS_MT_CDRs_sent_to_CG	ACCUMULATION	INTEGER	Number of LCS-MT-CDRs the SGSN delivers to the CG.	M117440513.S117450724	Sum	Sum
LCS_NI_CDRs_sent_to_CG	ACCUMULATION	INTEGER	Number of LCS-NI-CDRs the SGSN delivers to the CG.	M117440513.S117450726	Sum	Sum
M_CDRs_sent_to_CG	ACCUMULATION	INTEGER	Number of M-CDRs the SGSN delivers to the CG.	M117440513.S117450719	Sum	Sum
Max_CDRs_per_second_sent_to_CG	INTENSITY	INTEGER	The maximum number of CDRs delivered to the CG within one second.	M117440513.S117450723	Average	Average, Maximum, Minimum, Sum
Redirection_request_rec_from_CG	ACCUMULATION	INTEGER	Number of redirection requests the SGSN receives from the CG.	M117440513.S117450716	Sum	Sum
S_CDRs_sent_to_CG	ACCUMULATION	INTEGER	Number of S-CDRs the SGSN delivers to the CG.	M117440513.S117450718	Sum	Sum
S_SMO_CDRs_sent_to_CG	ACCUMULATION	INTEGER	Number of S-SMO-CDRs the SGSN delivers to the CG.	M117440513.S117450720	Sum	Sum

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S_SMT_CDRs_sent_to_CG	ACCUMULATION	INTEGER	Number of S-SMT-CDRs the SGSN delivers to the CG.	M117440513.S117450721	Sum	Sum
SGSN_and_CG_com_interruption	ACCUMULATION	INTEGER	Number of communication interruptions between the SGSN and the CG.	M117440513.S117450713	Sum	Sum

7.7 DNS Performance Indicators

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

- DNS.Huawei.GPRS.DNS_inquiries

7.7.1 DNS.Huawei.GPRS.DNS_inquiries

DNS inquiry measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
DNS_inquiry_attempts	ACCUMULATION	INTEGER	Number of DNS inquiry attempts on a specific DNS server	M117440688.S117470813	Sum	
Failed_DNS_inquiries	ACCUMULATION	INTEGER	Number of failed DNS inquiries on a specific DNS server	M117440688.S117470814	Sum	

7.8 Gb_Fwd_Channel Performance Indicators

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

- Gb_Fwd_Channel.Huawei.GPRS.Gb_fwd_channel

7.8.1 Gb_Fwd_Channel.Huawei.GPRS.Gb_fwd_channel

SGSN 2G backup data forward channel

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
SG_2G_bak_avg_receiving_rate	INTENSITY	INT8	Average receiving rate of the forward channel	M117440685.S117470519	Average	hustrafbh, Sum, Minimum, Maximum
SG_2G_bak_avg_sending_rate	INTENSITY	INT8	Average sending rate of the forward channel	M117440685.S117470515	Average	hustrafbh, Sum, Minimum, Maximum
SG_2G_bak_peak_receiving_rate	INTENSITY	INT8	Peak receiving rate of the forward channel	M117440685.S117470520	Average	hustrafbh, Sum, Minimum, Maximum
SG_2G_bak_peak_sending_rate	INTENSITY	INT8	Peak sending rate of the forward channel	M117440685.S117470516	Average	hustrafbh, Sum, Minimum, Maximum
SG_2G_bak_pkt_rcvd	ACCUMULATION	INT8	Packets received by the forward channel	M117440685.S117470517	Sum	hustrafbh
SG_2G_bak_pkt_sent_from	ACCUMULATION	INT8	Packets sent by the forward channel	M117440685.S117470513	Sum	hustrafbh
SG_2G_bak_tr	ACCUMULA	INT8	Traffic volume	M117440685.S1174	Sum	hustrafbh

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affic_volume_rcvd	TION		received by the forward channel	70518		
SG_2G_bak_traffic_volume_sent	ACCUMULATION	INT8	Traffic volume send by the forward channel	M117440685.S117470514	Sum	hustrafbh

7.9 GGSN_IP Performance Indicators

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

- GGSN_IP.Huawei.GPRS.Gb_mode_PDP_context_activation_with_IP_address
- GGSN_IP.Huawei.GPRS.Iu_mode_PDP_context_activation_with_IP_address

7.9.1 GGSN_IP.Huawei.GPRS.Gb_mode_PDP_context_activation_with_IP_address

Gb mode PDP context activation with IP address measurement

The performance data measurements for this KPI group are recorded against the combination of GGSN_IP and SGSN (sgsn_id) .

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
_%_GGSN_create_PDP_success	PERCENTAGE	FLOAT	Percentage of acknowledgements that the SGSN receives from the GGSN that the PDP context is created during a MS initiated 2G primary PDP context activation.	100 * {GGSN_create_PDP_success}/ {GGSN_create_PDP_request}	Average	Average
Decode_GGSN_Create_PDP_Rsp_fail	ACCUMULATION	INTEGER	Number of times that the SGSN receives a response from the GGSN during a MS initiated 2G primary PDP context activation,	M117440667.S117466116	Sum	Sum

			however the response message decoding fails.			
GG_create_PDP_fail_APNRestrict	ACCUMULATION	INTEGER	Number of times that the SGSN receives responses from the GGSN during a MS initiated 2G primary PDP context activation, saying the PDP context creation fails because "APN Restriction".	M117440667.S117466125	Sum	Sum
GGSN_create_PDP_fail_APN_acc_denied	ACCUMULATION	INTEGER	Number of times that the SGSN receives responses from the GGSN during a MS initiated 2G primary PDP context activation, saying the PDP context creation fails because "APN access denied C no subscription".	M117440667.S117466124	Sum	Sum
GGSN_create_PDP_fail_dyn_addr_occ	ACCUMULATION	INTEGER	Number of times that the SGSN receives responses from the GGSN during a MS initiated 2G primary PDP context activation, saying the PDP context	M117440667.S117466118	Sum	Sum

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			creation fails because "All dynamic PDP addresses are occupied".			
GGSN_create_PDP_fail_Missing_APN	ACCUMULATION	INTEGER	Number of times that the SGSN receives responses from the GGSN during a MS initiated 2G primary PDP context activation, saying the PDP context creation fails because of "Missing or unknown APN".	M117440667.S117466120	Sum	Sum
GGSN_create_PDP_fail_No_mem_avail	ACCUMULATION	INTEGER	Number of times that the SGSN receives responses from the GGSN during a MS initiated 2G primary PDP context activation, saying the PDP context creation fails because "No memory is available".	M117440667.S117466119	Sum	Sum
GGSN_create_PDP_fail_No_res_avail	ACCUMULATION	INTEGER	Number of times that the SGSN receives responses from the GGSN during a MS initiated 2G primary PDP context activation, saying the PDP context creation fails	M117440667.S117466117	Sum	Sum

			because "No resources available".			
GGSN_create_PDP_fail_System_failure	ACCUMULATION	INTEGER	Number of times that the SGSN receives responses from the GGSN during a MS initiated 2G primary PDP context activation, saying the PDP context creation fails because of "System failure".	M117440667.S117466123	Sum	Sum
GGSN_create_PDP_fail_Unknown_PDP	ACCUMULATION	INTEGER	Number of times that the SGSN receives responses from the GGSN during a MS initiated 2G primary PDP context activation, saying the PDP context creation fails because of "Unknown PDP address or PDP type".	M117440667.S117466121	Sum	Sum
GGSN_create_PDP_fail_User_auth_fail	ACCUMULATION	INTEGER	Number of times that the SGSN receives responses from the GGSN during a MS initiated 2G primary PDP context activation, saying	M117440667.S117466122	Sum	Sum

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			the PDP context creation fails because "User authentication failed".			
GGSN_create_PDP_request	ACCUMULATION	INTEGER	Number of attempts that the SGSN notifies the GGSN to create a PDP context during a MS initiated 2G primary PDP context activation.	M117440667.S117466113	Sum	Sum
GGSN_create_PDP_success	ACCUMULATION	INTEGER	Number of acknowledgements that the SGSN receives from the GGSN that the PDP context is created during a MS initiated 2G primary PDP context activation.	M117440667.S117466114	Sum	Sum
Request_GGSN_create_PDP_timeout	ACCUMULATION	INTEGER	Number of times that the SGSN does not receive any response from the GGSN during a MS initiated 2G primary PDP context activation.	M117440667.S117466115	Sum	Sum

7.9.2 GGSN_IP.Huawei.GPRS.Iu_mode_PDP_context_activation_with_IP_address

Iu mode PDP context activation with IP address measurement

The performance data measurements for this KPI group are recorded against the combination of GGSN_IP and SGSN (sgsn_id) .

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators

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_%_GGSN_create_PDP_success	PERCENTAGE	FLOAT	Percentage of acknowledgements that the SGSN receives from the GGSN that the PDP context is created during a MS initiated 3G primary PDP context activation.	100 * {GGSN_create_PDP_success}/ {GGSN_create_PDP_request}	Average	Average
Decode_GGSN_Create_PDP_Rsp_fail	ACCUMULATION	INTEGER	Number of times that the SGSN receives responses from the GGSN during a MS initiated 3G primary PDP context activation, however the message decoding fails.	M117440668.S117466216	Sum	Sum
GG_create_PDP_fail_APNRestrict	ACCUMULATION	INTEGER	Number of times that the SGSN receives responses from the GGSN during a MS initiated 3G primary PDP context activation, saying the PDP context creation fails because "APN Restriction".	M117440668.S117466225	Sum	Sum
GGSN_create_PDP_fail_APN_acc_denied	ACCUMULATION	INTEGER	Number of times that the SGSN receives responses from the GGSN during a MS initiated 3G primary PDP context	M117440668.S117466224	Sum	Sum

			activation, saying the PDP context creation fails because "APN access denied C no subscription".			
GGSN_create_PDP_fail_dyn_addr_occ	ACCUMULATION	INTEGER	Number of times that the SGSN receives responses from the GGSN during a MS initiated 3G primary PDP context activation, saying the PDP context creation fails because "All dynamic PDP addresses are occupied".	M117440668.S117466218	Sum	Sum
GGSN_create_PDP_fail_Missing_APN	ACCUMULATION	INTEGER	Number of times that the SGSN receives responses from the GGSN during a MS initiated 3G primary PDP context activation, saying the PDP context creation fails because of "Missing or unknown APN".	M117440668.S117466220	Sum	Sum
GGSN_create_PDP_fail_No_mem_avail	ACCUMULATION	INTEGER	Number of times that the SGSN receives responses from the GGSN during	M117440668.S117466219	Sum	Sum

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			a MS initiated 3G primary PDP context activation, saying the PDP context creation fails because "No memory is available".			
GGSN_create_PDP_fail_No_res_avail	ACCUMULATION	INTEGER	Number of times that the SGSN receives responses from the GGSN during a MS initiated 3G primary PDP context activation, saying the PDP context creation fails because "No resources available".	M117440668.S117466217	Sum	Sum
GGSN_create_PDP_fail_System_failure	ACCUMULATION	INTEGER	Number of times that the SGSN receives responses from the GGSN during a MS initiated 3G primary PDP context activation, saying the PDP context creation fails because of "System failure".	M117440668.S117466223	Sum	Sum
GGSN_create_PDP_fail_Unknown_PDP	ACCUMULATION	INTEGER	Number of times that the SGSN receives responses from the GGSN during a MS initiated 3G primary PDP context	M117440668.S117466221	Sum	Sum

			activation, saying the PDP context creation fails because of "Unknown PDP address or PDP type".			
GGSN_create_PDP_fail_User_auth_fail	ACCUMULATION	INTEGER	Number of times that the SGSN receives responses from the GGSN during a MS initiated 3G primary PDP context activation, saying the PDP context creation fails because "User authentication failed".	M117440668.S117466222	Sum	Sum
GGSN_create_PDP_request	ACCUMULATION	INTEGER	Number of attempts that the SGSN notifies the GGSN to create a PDP context during a MS initiated 3G primary PDP context activation.	M117440668.S117466213	Sum	Sum
GGSN_create_PDP_success	ACCUMULATION	INTEGER	Number of acknowledgements that the SGSN receives from the GGSN that the PDP context is created during a MS initiated 3G primary PDP	M117440668.S117466214	Sum	Sum

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			context activation.			
Request_GGSN_create_PDP_timeout	ACCUMULATION	INTEGER	Number of times that the SGSN does not receive any response from the GGSN within the time limit during a MS initiated 3G primary PDP context activation.	M117440668.S117466215	Sum	Sum

7.10 GnGp_IPV4 Performance Indicators

This section shows the key performance indicators and other counters for the GnGp_IPV4 object, divided into the following sub-sections:

- GnGp_IPV4.Huawei.GPRS.Gn_Traffic_with_Specific_Gn_IP
- GnGp_IPV4.Huawei.GPRS.IP_Traffic_with_specific_Gn_IP

7.10.1 GnGp_IPV4.Huawei.GPRS.Gn_Traffic_with_Specific_Gn_IP

Gn Traffic with Specific Gn IP measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
MBMS_Kbytes_of_Background_class_sent_to_specified_RNC	ACCUMULATION	INT8	Number of MBMS background GTP packets sent to RNC.	M117440541.S117453534	Sum	hustrafbh, Sum
MBMS_Kbytes_of_Streaming_class_sent_to_specified_RNC	ACCUMULATION	INT8	Number of MBMS streaming GTP packets sent to RNC.	M117440541.S117453532	Sum	hustrafbh, Sum
MBMS_Pakets_of_Background_class_sent_to_specified_RNC	ACCUMULATION	INT8	Number of bytes of MBMS background GTP packets	M117440541.S117453533	Sum	hustrafbh, Sum

			sent to RNC.			
MBMS_Pakets_of_Streaming_class_sent_to_specified_RNC	ACCUMULATION	INT8	Number of bytes of MBMS streaming GTP packets sent to RNC.	M117440541.S117453531	Sum	hustrafbh, Sum
SGSN_GTP_Mean_pkts	INTENSITY	FLOAT	The arithmetic mean of GTP packets processed by SGSN.	M117440541.S117453527	Average	Average, hustrafbh, Maximum, Minimum, Sum
SGSN_GTP_Mean_rec_pkts	INTENSITY	FLOAT	The arithmetic mean of GTP packets received from GGSN.	M117440541.S117453526	Average	Average, hustrafbh, Maximum, Minimum, Sum
SGSN_GTP_Mean_rec_Throughput	INTENSITY	FLOAT	The arithmetic mean of GTP packets throughput received from GGSN.	M117440541.S117453517	Average	Average, hustrafbh, Maximum, Minimum, Sum
SGSN_GTP_Mean_sent_pkts	INTENSITY	FLOAT	The arithmetic mean of GTP packets sent to GGSN.	M117440541.S117453525	Average	Average, hustrafbh, Maximum, Minimum, Sum
SGSN_GTP_Mean_sent_Throughput	INTENSITY	FLOAT	The arithmetic mean of GTP packets throughput sent	M117440541.S117453516	Average	Average, hustrafbh, Maximu

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			to GGSN.			m, Minimum, Sum
SGSN_GTP_Mean_Throughput	INTENSITY	FLOAT	The arithmetic mean of GTP packets throughput processed by SGSN.	M117440541.S117453518	Average	Average, hustrafbh, Maximum, Minimum, Sum
SGSN_GTP_Operated_kbytes	ACCUMULATION	INT8	This measurement provides bytes of GTP packets processed by SGSN.	M117440541.S117453515	Sum	hustrafbh, Sum
SGSN_GTP_Operated_pkts	ACCUMULATION	INT8	Number of GTP packets processed by SGSN.	M117440541.S117453524	Sum	hustrafbh, Sum
SGSN_GTP_Peak_pkts	INTENSITY	FLOAT	The maximum recorded value of GTP packets processed by SGSN.	M117440541.S117453530	Constant	Average, hustrafbh, Maximum, Minimum, Sum
SGSN_GTP_Peak_rec_pkts	INTENSITY	FLOAT	The maximum recorded value of GTP packets received from GGSN.	M117440541.S117453529	Constant	Average, hustrafbh, Maximum, Minimum, Sum
SGSN_GTP_Peak_rec_Throughput	INTENSITY	FLOAT	The maximum recorded value of GTP packets throughput received from GGSN.	M117440541.S117453520	Constant	Average, hustrafbh, Maximum, Minimum, Sum

SGSN_GTP_Peak_sent_pkts	INTENSITY	FLOAT	The maximum recorded number of GTP packets sent to GGSN.	M117440541.S117453528	Constant	Average, hustrafbh, Maximum, Minimum, Sum
SGSN_GTP_Peak_sent_Throughput	INTENSITY	FLOAT	The maximum recorded value of GTP packets throughput sent to GGSN.	M117440541.S117453519	Constant	Average, hustrafbh, Maximum, Minimum, Sum
SGSN_GTP_Peak_Throughput	INTENSITY	FLOAT	The maximum recorded value of GTP packets throughput processed by SGSN.	M117440541.S117453521	Constant	Average, hustrafbh, Maximum, Minimum, Sum
SGSN_GTP_rec_kbytes	ACCUMULATION	INT8	This measurement provides bytes of GTP packets received from GGSN.	M117440541.S117453514	Sum	hustrafbh, Sum
SGSN_GTP_rec_pkts	ACCUMULATION	INT8	Number of GTP packets received from GGSN.	M117440541.S117453523	Sum	hustrafbh, Sum
SGSN_GTP_sent_kbytes	ACCUMULATION	INT8	This measurement provides bytes of GTP packets sent to GGSN.	M117440541.S117453513	Sum	hustrafbh, Sum
SGSN_GTP_sent_pkts	ACCUMULATION	INT8	Number of GTP packets sent to	M117440541.S117453522	Sum	hustrafbh, Sum

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			GGSN.			

7.10.2 GnGp_IPV4.Huawei.GPRS.IP_Traffic_with_specific_Gn_IP

IP Traffic with specific Gn IP measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
IP_pkts_sent	ACCUMULATION	INTEGER	Number of PING packets sent to certain IP address by SGSN.	M117440632.S117462613	Sum	hustrafbh, Sum

7.11 GnGp_IPV6 Performance Indicators

This section shows the key performance indicators and other counters for the GnGp_IPV6 object, divided into the following sub-sections:

- GnGp_IPV6.Huawei.GPRS.Gn_Traffic_with_Specific_Gn_IPV6
- GnGp_IPV6.Huawei.GPRS.IP_Traffic_with_Specific_Gn_IPV6

7.11.1 GnGp_IPV6.Huawei.GPRS.Gn_Traffic_with_Specific_Gn_IPV6

Gn Traffic with Specific Gn IPV6 measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
SGSN_GTP_Mean_pkts_IPV6	INTENSITY	FLOAT	The arithmetic mean of GTP packets processed by SGSN.	M117440653.S117464727	Average	Average, hustrafbh, Maximum, Minimum, Sum
SGSN_GTP_Mean_rec_pkts_IPV6	INTENSITY	FLOAT	The arithmetic mean of GTP packets received from GGSN.	M117440653.S117464726	Average	Average, hustrafbh, Maximum, Minimu

						m, Sum
SGSN_GTP_Mean_rec_Throughput_IPV6	INTENSITY	FLOAT	The arithmetic mean of GTP packets throughput received from GGSN.	M117440653.S117464717	Average	Average, hustrafbh, Maximum, Minimum, Sum
SGSN_GTP_Mean_sent_pkts_IPV6	INTENSITY	FLOAT	The arithmetic mean of GTP packets sent to GGSN.	M117440653.S117464725	Average	Average, hustrafbh, Maximum, Minimum, Sum
SGSN_GTP_Mean_sent_Throughput_IPV6	INTENSITY	FLOAT	The arithmetic mean of GTP packets throughput sent to GGSN.	M117440653.S117464716	Average	Average, hustrafbh, Maximum, Minimum, Sum
SGSN_GTP_Mean_Throughput_IPV6	INTENSITY	FLOAT	The arithmetic mean of GTP packets throughput processed by SGSN.	M117440653.S117464718	Average	Average, hustrafbh, Maximum, Minimum, Sum
SGSN_GTP_Operated_kbytes_IPV6	ACCUMULATION	INT8	This measurement provides bytes of GTP packets processed by SGSN.	M117440653.S117464715	Sum	hustrafbh, Sum
SGSN_GTP_Operated_pkts_IPV6	ACCUMULATION	INT8	Number of GTP packets processed by	M117440653.S117464724	Sum	hustrafbh, Sum

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			SGSN.			
SGSN_GTP_Peak_pkts_IPV6	INTENSITY	FLOAT	The maximum recorded value of GTP packets processed by SGSN.	M117440653.S117464730	Constant	Average, hustrafbh, Maximum, Minimum, Sum
SGSN_GTP_Peak_rec_pkts_IPV6	INTENSITY	FLOAT	The maximum recorded value of GTP packets received from GGSN.	M117440653.S117464729	Constant	Average, hustrafbh, Maximum, Minimum, Sum
SGSN_GTP_Peak_rec_Throughput_IPV6	INTENSITY	FLOAT	The maximum recorded value of GTP packets throughput received from GGSN.	M117440653.S117464720	Constant	Average, hustrafbh, Maximum, Minimum, Sum
SGSN_GTP_Peak_sent_pkts_IPV6	INTENSITY	FLOAT	The maximum recorded number of GTP packets sent to GGSN.	M117440653.S117464728	Constant	Average, hustrafbh, Maximum, Minimum, Sum
SGSN_GTP_Peak_sent_Throughput_IPV6	INTENSITY	FLOAT	The maximum recorded value of GTP packets throughput sent to GGSN.	M117440653.S117464719	Constant	Average, hustrafbh, Maximum, Minimum, Sum
SGSN_GTP_Peak_Throughput_IPV6	INTENSITY	FLOAT	The maximum recorded value of GTP packets throughput processed by SGSN.	M117440653.S117464721	Constant	Average, hustrafbh, Maximum, Minimu

						m, Sum
SGSN_GTP_rec_kbytes_IPV6	ACCUMULATION	INT8	This measurement provides bytes of GTP packets received from GGSN.	M117440653.S117464714	Sum	hustrafbh, Sum
SGSN_GTP_rec_pkts_IPV6	ACCUMULATION	INT8	Number of GTP packets received from GGSN.	M117440653.S117464723	Sum	hustrafbh, Sum
SGSN_GTP_sent_kbytes_IPV6	ACCUMULATION	INT8	This measurement provides bytes of GTP packets sent to GGSN.	M117440653.S117464713	Sum	hustrafbh, Sum
SGSN_GTP_sent_pkts_IPV6	ACCUMULATION	INT8	Number of GTP packets sent to GGSN.	M117440653.S117464722	Sum	hustrafbh, Sum

7.11.2 GnGp_IPV6.Huawei.GPRS.IP_Traffic_with_Specific_Gn_IPV6

IP Traffic with Specific Gn IPV6 measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
IPV6_pkts_sent_IPV6	ACCUMULATION	INTEGER	Number of IP packets (IPV6) sent from SHSN to certain IP address.	M117440654.S117464813	Sum	hustrafbh, Sum

7.12 Heartbeat_Channel Performance Indicators

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

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- Heartbeat_Channel.Huawei.GPRS.Gb_heartbeat_channel

7.12.1 Heartbeat_Channel.Huawei.GPRS.Gb_heartbeat_channel

(Obsolete from V900R010) SGSN backup heartbeat channel

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
SG_2G_bak_heartbeat_overtime	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: SGSN 2G backup heartbeat overtime in heartbeat channel	M117440684.S117471215	Sum	hustrafbh
SG_2G_bak_heartbeat_rcvd	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: SGSN 2G backup heartbeat received in heartbeat channel	M117440684.S117471214	Sum	hustrafbh
SG_2G_bak_heartbeat_sent	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: SGSN 2G backup heartbeat sent in heartbeat channel	M117440684.S117471213	Sum	hustrafbh

7.13 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.CDR_with_Specific_User
- IMSI.Huawei.GPRS.Traffic_per_sub

7.13.1 IMSI.Huawei.GPRS.CDR_with_Specific_User

CDR with Specific User measurement

The performance data measurements for this KPI group are recorded against the combination of IMSI and SGSN (sgsn_id) .

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
LCS_MO_CDRs_generated_per_MS	ACCUMULATION	INTEGER	LCS-MO-CDRs generated per MS	M117440514.S117450818	Sum	Sum
LCS_MT_CDRs_generated_per_MS	ACCUMULATION	INTEGER	LCS-MT-CDRs generated per MS	M117440514.S117450817	Sum	Sum
LCS_NI_CDRs_generated_per_MS	ACCUMULATION	INTEGER	LCS-NI-CDRs generated per MS	M117440514.S117450819	Sum	Sum
M_CDRs_generated_per_MS	ACCUMULATION	INTEGER	M-CDRs generated per MS	M117440514.S117450814	Sum	Sum
S_CDRs_generated_per_MS	ACCUMULATION	INTEGER	S-CDRs generated per MS	M117440514.S117450813	Sum	Sum
S_SMO_CDRs_generated_per_MS	ACCUMULATION	INTEGER	S-SMO-CDRs generated per MS	M117440514.S117450815	Sum	Sum
S_SMT_CDRs_generated_per_MS	ACCUMULATION	INTEGER	S-SMT-CDRs generated per MS	M117440514.S117450816	Sum	Sum

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7.13.2 IMSI.Huawei.GPRS.Traffic_per_sub

(Obsolete from V900R010) Per subscriber traffic measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
Disc_rcvd_Data_pkt_Gn_itrface	ACCUMULATION	INT8	Obsolete from CN-SGSN/V900R010.C01SPC022:Discarded Received Data Packets on Gn-Interface	M117440724.S117474725	Sum	
Disc_rcvd_Data_pkt_on_itrface	ACCUMULATION	INT8	Obsolete from CN-SGSN/V900R010.C01SPC022:Discarded Received Data Packets on Iu-Interface	M117440724.S117474717	Sum	
Disc_rcvd_Octets_on_Gb_itrface	ACCUMULATION	INT8	Obsolete from CN-SGSN/V900R010.C01SPC022:Discarded Received Octets on Gb-Interface	M117440724.S117474734	Sum	
Disc_rcvd_Octets_on_Gn_itrface	ACCUMULATION	INT8	Obsolete from CN-SGSN/V900R010.C01SPC022:Discarded Received Octets on Gn-Interface	M117440724.S117474726	Sum	
Disc_rcvd_Octets_on_Interface	ACCUMULATION	INT8	Obsolete from CN-SGSN/V900R010.C01SPC022:Discarded Received Octets on Iu-Interface	M117440724.S117474718	Sum	

Disc_Send_Data_pkt_Gn_itrface	ACCUMULATION	INT8	Obsolete from CN-SGSN/V900R010.C01SPC022:Discarded Send Data Packets on Gn-Interface	M117440724.S117474727	Sum	
Disc_Send_Data_pkt_on_itrface	ACCUMULATION	INT8	Obsolete from CN-SGSN/V900R010.C01SPC022:Discarded Send Data Packets on Iu-Interface	M117440724.S117474719	Sum	
Disc_Send_Octets_on_Gb_itrface	ACCUMULATION	INT8	Obsolete from CN-SGSN/V900R010.C01SPC022:Discarded Send Octets on Gb-Interface	M117440724.S117474736	Sum	
Disc_Send_Octets_on_Gn_itrface	ACCUMULATION	INT8	Obsolete from CN-SGSN/V900R010.C01SPC022:Discarded Send Octets on Gn-interface	M117440724.S117474728	Sum	
Disc_Send_Octets_on_interface	ACCUMULATION	INT8	Obsolete from CN-SGSN/V900R010.C01SPC022:Discarded Send Octets on Iu-interface	M117440724.S117474720	Sum	
Discarded_Received_PDU	ACCUMULATION	INT8	Obsolete from CN-SGSN/V900R01	M117440724.S117474733	Sum	

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			0.C01SPC022:Discarded Received PDU			
Discarded_Send_PDU	ACCUMULATION	INT8	Obsolete from CN-SGSN/V900R010.C01SPC022:Discarded Send PDU	M117440724.S117474735	Sum	
Drop_Octets_Subs_Buffer_Ovrflw	ACCUMULATION	INT8	Obsolete from CN-SGSN/V900R010.C01SPC022:Dropped Octets for Subscriber due to Buffer Overflow	M117440724.S117474738	Sum	
Drop_Octets_Subs_Suspend_State	ACCUMULATION	INT8	Obsolete from CN-SGSN/V900R010.C01SPC022:Dropped Octets for Subscriber due to Suspend State	M117440724.S117474740	Sum	
Drop_pkt_Subs_Buffer_Ovrflw	ACCUMULATION	INT8	Obsolete from CN-SGSN/V900R010.C01SPC022:Dropped Data Packets for Subscriber due to Buffer Overflow	M117440724.S117474737	Sum	
Drop_pkt_Subs_Suspend_State	ACCUMULATION	INT8	Obsolete from CN-SGSN/V900R010.C01SPC022:Dropped Data Packets for Subscriber due to Suspend State	M117440724.S117474739	Sum	

Rcvd_Data_pkts_on_Gn_Interface	ACCUMULATION	INT8	Obsolete from CN-SGSN/V900R010.C01SPC022:Received Data Packets on Gn-Interface	M117440724.S117474721	Sum	
Rcvd_Data_pkts_on_Iu_Interface	ACCUMULATION	INT8	Obsolete from CN-SGSN/V900R010.C01SPC022:Received Data Packets on Iu-Interface	M117440724.S117474713	Sum	
Rcvd_Octets_on_Gb_Interface	ACCUMULATION	INT8	Obsolete from CN-SGSN/V900R010.C01SPC022:Received Octets on Gb-Interface	M117440724.S117474730	Sum	
Rcvd_Octets_on_Gn_Interface	ACCUMULATION	INT8	Obsolete from CN-SGSN/V900R010.C01SPC022:Received Octets on Gn-Interface	M117440724.S117474722	Sum	
Rcvd_Octets_on_Iu_Interface	ACCUMULATION	INT8	Obsolete from CN-SGSN/V900R010.C01SPC022:Received Octets on Iu-Interface	M117440724.S117474714	Sum	
Received_PDU	ACCUMULATION	INT8	Obsolete from CN-SGSN/V900R010.C01SPC022:Received PDU	M117440724.S117474729	Sum	
Sent_Data_pkts	ACCUMULA	INT8	Obsolete from	M117440724.S117	Sum	

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_on_Gn_Interface	TION		CN-SGSN/V900R010.C01SPC022:Sent Data Packets on Gn-Interface	474723		
Sent_Data_pkts_on_Iu_Interface	ACCUMULATION	INT8	Obsolete from CN-SGSN/V900R010.C01SPC022:Sent Data Packets on Iu-Interface	M117440724.S117474715	Sum	
Sent_Octets_on_Gb_Interface	ACCUMULATION	INT8	Obsolete from CN-SGSN/V900R010.C01SPC022:Sent Octets on Gb-Interface	M117440724.S117474732	Sum	
Sent_Octets_on_Gn_Interface	ACCUMULATION	INT8	Obsolete from CN-SGSN/V900R010.C01SPC022:Sent Octets on Gn-Interface	M117440724.S117474724	Sum	
Sent_Octets_on_Iu_Interface	ACCUMULATION	INT8	Obsolete from CN-SGSN/V900R010.C01SPC022:Sent Octets on Iu-Interface	M117440724.S117474716	Sum	
Sent_PDU	ACCUMULATION	INT8	Obsolete from CN-SGSN/V900R010.C01SPC022:Sent PDU	M117440724.S117474731	Sum	

7.14 IP_Security Performance Indicators

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

- IP_Security.Huawei.GPRS.GTPC_IPSEC

7.14.1 IP_Security.Huawei.GPRS.GTPC_IPSEC

GTP-C IPSec measurements

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
AH_discarded_msg_replay	ACCUMULATION	INTEGER	Number of AH messages discarded due to replay during reception.	M117440722.S117474118	Sum	hustrafbh
AH_input_msg_discarded	ACCUMULATION	INTEGER	Number of AH messages discarded during reception.	M117440722.S117474122	Sum	hustrafbh
AH_msg_disc_err_word_len	ACCUMULATION	INTEGER	Number of AH messages discarded due to wrong verification word length during reception.	M117440722.S117474119	Sum	hustrafbh
AH_msg_disc_errored_header	ACCUMULATION	INTEGER	Number of AH messages discarded due to header error during transmission and reception.	M117440722.S117474113	Sum	hustrafbh
AH_msg_disc_full_IPSEC_queue	ACCUMULATION	INTEGER	Number of AH messages discarded due to full IPSec queue during transmission and reception.	M117440722.S117474116	Sum	hustrafbh

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AH_msg_disc_invalid_sec_asso	ACCUMULATION	INTEGER	Number of AH messages discarded due to the use of invalid security association during reception.	M117440722.S117474124	Sum	hustrafbh
AH_msg_disc_lack_of_sec_asso	ACCUMULATION	INTEGER	Number of AH messages discarded due no available security association during transmission and reception.	M117440722.S117474114	Sum	hustrafbh
AH_msg_disc_seq_rollback_to_0	ACCUMULATION	INTEGER	Number of AH messages discarded because the sequence No. rolls back to 0 during transmission and reception.	M117440722.S117474117	Sum	hustrafbh
AH_msg_disc_verification_fail	ACCUMULATION	INTEGER	Number AH messages discarded due to verification failure during reception.	M117440722.S117474115	Sum	hustrafbh
AH_msg_discarded_too_long_IP	ACCUMULATION	INTEGER	Number of AH messages discarded due to IP message over length during transmission.	M117440722.S117474127	Sum	hustrafbh
AH_msg_inputed	ACCUMULATION	INTEGER	Number of AH messages received.	M117440722.S117474120	Sum	hustrafbh
AH_msg_kbyte	ACCUMULA	INT8	This	M117440722.S117	Sum	hustrafbh

s_inputed	TION		measurement provides the Kbytes of AH messages received.	474125		
AH_msg_kbytes_outputed	ACCUMULATION	INT8	This measurement provides the Kbytes of AH messages transmitted.	M117440722.S117474126	Sum	hustrafbh
AH_msg_outputed	ACCUMULATION	INTEGER	Number of AH messages transmitted.	M117440722.S117474121	Sum	hustrafbh
AH_output_msg_discarded	ACCUMULATION	INTEGER	Number of AH messages discarded during transmission.	M117440722.S117474123	Sum	hustrafbh
Comp_IP_pkt_disc_head_error	ACCUMULATION	INTEGER	Number of compressed IP packets discarded due to packet head error.	M117440722.S117474154	Sum	hustrafbh
Comp_IP_pkt_disc_oversize_len	ACCUMULATION	INTEGER	Number of output compressed IP packets discarded due to oversize length.	M117440722.S117474159	Sum	hustrafbh
Comp_IPpkt_disc_invalid_policy	ACCUMULATION	INTEGER	Number of input compressed IP packets discarded due to invalid policy.	M117440722.S117474160	Sum	hustrafbh

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Comp_IPpkt_drop_null_transform	ACCUMULATION	INTEGER	Number of input compressed IP packets due to null transform mode	M117440722.S117474156	Sum	hustrafbh
Decrypted_IP_pkt_rcvd_from_SAE	ACCUMULATION	INTEGER	Number of packets that has been decrypted	M117440722.S117474164	Sum	hustrafbh
Decrypted_IP_pkt_to_SAE	ACCUMULATION	INTEGER	Number of decrypted IP packets sending to SAE	M117440722.S117474162	Sum	hustrafbh
Encrypted_IP_pkt_rcvd_from_SAE	ACCUMULATION	INTEGER	Number of packets that has been encrypted	M117440722.S117474165	Sum	hustrafbh
Encrypted_IP_pkt_to_SAE	ACCUMULATION	INTEGER	Number of encrypted IP packets sending to SAE	M117440722.S117474163	Sum	hustrafbh
ESP_discarded_msg_replay	ACCUMULATION	INTEGER	Number of ESP messages discarded due to replay during reception.	M117440722.S117474134	Sum	hustrafbh
ESP_input_msg_discarded	ACCUMULATION	INTEGER	Number of ESP messages discarded during reception.	M117440722.S117474137	Sum	hustrafbh
ESP_msg_disc_errored_header	ACCUMULATION	INTEGER	Number of ESP messages discarded due to header error during transmission and reception.	M117440722.S117474128	Sum	hustrafbh
ESP_msg_disc_full_IPSEC_queue	ACCUMULATION	INTEGER	Number of ESP messages discarded because the	M117440722.S117474131	Sum	hustrafbh

			IPSec queue is full during transmission and reception.			
ESP_msg_disc_invalid_sec_asso	ACCUMULATION	INTEGER	Number of ESP messages discarded due to the use of invalid security association during reception.	M117440722.S117474139	Sum	hustrafbh
ESP_msg_disc_lack_of_sec_asso	ACCUMULATION	INTEGER	Number of ESP messages discarded due to no available security association during transmission and reception.	M117440722.S117474129	Sum	hustrafbh
ESP_msg_disc_length_error	ACCUMULATION	INTEGER	Number of ESP messages discarded due to wrong message length during reception.	M117440722.S117474133	Sum	hustrafbh
ESP_msg_disc_seq_rollback_to_0	ACCUMULATION	INTEGER	Number of ESP messages discarded because the sequence No. rolls back to 0 during transmission and reception	M117440722.S117474132	Sum	hustrafbh
ESP_msg_disc_verification_fail	ACCUMULATION	INTEGER	Number of ESP messages	M117440722.S117474130	Sum	hustrafbh

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			discarded due to verification failure during reception.			
ESP_msg_discarded_too_long_IP	ACCUMULATION	INTEGER	Number of ESP messages discarded due to IP message over length during transmission.	M117440722.S117474142	Sum	hustrafbh
ESP_msg_inputed	ACCUMULATION	INTEGER	Number of ESP messages received.	M117440722.S117474135	Sum	hustrafbh
ESP_msg_kbytes_inputed	ACCUMULATION	INT8	This measurement provides the Kbytes of ESP messages received.	M117440722.S117474140	Sum	hustrafbh
ESP_msg_kbytes_outputed	ACCUMULATION	INT8	This measurement provides the Kbytes of ESP messages transmitted.	M117440722.S117474141	Sum	hustrafbh
ESP_msg_outputed	ACCUMULATION	INTEGER	Number of ESP messages transmitted.	M117440722.S117474136	Sum	hustrafbh
ESP_output_msg_discarded	ACCUMULATION	INTEGER	Number of ESP messages discarded during transmission	M117440722.S117474138	Sum	hustrafbh
In_comp_IP_pkt_drop_length_err	ACCUMULATION	INTEGER	Number of compressed IP packets received but discarded due to length error.	M117440722.S117474157	Sum	hustrafbh
Inbound_comp_IP_pkts_in_kB	ACCUMULATION	INT8	Number of compressed IP	M117440722.S117474149	Sum	hustrafbh

			packets (in kilobytes) input.			
Inbound_Compressed_IP_pkts	ACCUMULATION	INTEGER	Number of compressed IP packets input.	M117440722.S117474147	Sum	hustrafbh
Input_comp_IP_pkt_dropped	ACCUMULATION	INTEGER	Number of compressed IP packets input but discarded.	M117440722.S117474151	Sum	hustrafbh
IP_pkt_disc_null_comp_SA	ACCUMULATION	INTEGER	Number of input and output IP packets discarded due to null compression SA	M117440722.S117474155	Sum	hustrafbh
IP_pkt_drop_decomp_error	ACCUMULATION	INTEGER	Number of compressed IP packets discarded due to decompression error.	M117440722.S117474153	Sum	hustrafbh
IP_pkt_drop_invalid_comp_SA	ACCUMULATION	INTEGER	Number of input compressed IP packets discarded due to invalid compression SA.	M117440722.S117474158	Sum	hustrafbh
IPSEC_input_msg_discarded	ACCUMULATION	INTEGER	Number of IPSec messages discarded during transmission.	M117440722.S117474146	Sum	hustrafbh
IPSEC_output_msg_discarded	ACCUMULATION	INTEGER	Number of IPSec messages discarded	M117440722.S117474145	Sum	hustrafbh

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			during reception.			
Msg_disc_unspec_IPSec_protocol	ACCUMULATION	INTEGER	This measurement provides the messages discarded and with unidentified IP Sec protocol No. during reception.	M117440722.S117474143	Sum	hustrafbh
Out_msg_unspec_IPSec_protocol	ACCUMULATION	INTEGER	This measurement provides the messages discarded and with unidentified IP Sec protocol No. during transmission.	M117440722.S117474144	Sum	hustrafbh
Outbound_comp_IP_pkts_in_kB	ACCUMULATION	INT8	Number of compressed IP packets (in kilobytes) output.	M117440722.S117474150	Sum	hustrafbh
Outbound_Compressed_IP_pkts	ACCUMULATION	INTEGER	Number of compressed IP packets output.	M117440722.S117474148	Sum	hustrafbh
Output_comp_IP_pkt_dropped	ACCUMULATION	INTEGER	Number of compressed IP packets output but discarded.	M117440722.S117474152	Sum	hustrafbh
Pkt_disc_unknown_prot_direct	ACCUMULATION	INTEGER	Number of compressed IP packets discarded due to unknown protocol and direction.	M117440722.S117474161	Sum	hustrafbh

System_error_msg_discarded	ACCUMULATION	INTEGER	Number of packets due to system occur	M117440722.S117474166	Sum	hustrafbh

7.15 M3UA_Dest Performance Indicators

This section shows the key performance indicators and other counters for the M3UA_Dest object, divided into the following sub-sections:

- M3UA_Dest.Huawei.GPRS.M3UA_DE

7.15.1 M3UA_Dest.Huawei.GPRS.M3UA_DE

M3UA DE measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
Inaccessibility_durations	ACCUMULATION	INTEGER	Time interval during which the M3UA destination signaling point is unreachable.	M117440658.S117465214	Sum	hustrafbh, Sum
Inaccessibility_times	ACCUMULATION	INTEGER	Number of times that the M3UA destination signaling point is unreachable.	M117440658.S117465213	Sum	hustrafbh, Sum

7.16 M3UA_Link Performance Indicators

This section shows the key performance indicators and other counters for the M3UA_Link object, divided into the following sub-sections:

- M3UA_Link.Huawei.GPRS.M3UA_link

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7.16.1 M3UA_Link.Huawei.GPRS.M3UA_link

M3UA link measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
Congestion_times	ACCUMULATION	INTEGER	Number of M3UA link congestions.	M117440656.S117465016	Sum	hum3uatbh, Sum
Durations_of_congestion	ACCUMULATION	INTEGER	Total time duration of M3UA link congestion.	M117440656.S117465017	Sum	hum3uatbh, Sum
Durations_of_unavailable	ACCUMULATION	INTEGER	Duration that the M3UA link does not transmit services.	M117440656.S117465015	Sum	hum3uatbh, Sum
Fault_times	ACCUMULATION	INTEGER	Number of M3UA link disconnections.	M117440656.S117465013	Sum	hum3uatbh, Sum
Msg_rec	ACCUMULATION	INTEGER	Number of messages received from the peer over the M3UA link.	M117440656.S117465020	Sum	hum3uatbh, Sum
Msg_sent_and_received	ACCUMULATION	INTEGER	Number of data messages that the M3UA link sends and receives.	{Msg_sent} + {Msg_rec}	Sum	hum3uatbh, Sum
Msg_sent	ACCUMULATION	INTEGER	Number of data messages that the M3UA link sends to the peer.	M117440656.S117465018	Sum	hum3uatbh, Sum
Octets_rec	ACCUMULATION	INT8	Total size of the messages received from the peer over the M3UA link in	M117440656.S117465021	Sum	hum3uatbh, Sum

			Kbytes.			
Octets_sent	ACCUMULATION	INT8	Total size of the data messages sent to the peer over the M3UA link in Kbytes.	M117440656.S117465019	Sum	hum3uatbh, Sum
Unavailable_times	ACCUMULATION	INTEGER	Number of times that the M3UA link does not transmit services.	M117440656.S117465014	Sum	hum3uatbh, Sum

7.17 M3UA_LinkSet Performance Indicators

This section shows the key performance indicators and other counters for the M3UA_LinkSet object, divided into the following sub-sections:

- M3UA_LinkSet.Huawei.GPRS.M3UA_link_set

7.17.1 M3UA_LinkSet.Huawei.GPRS.M3UA_link_set

M3UA link set measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
Durations_of_unavailable	ACCUMULATION	INTEGER	Duration of non-available M3UA link in the M3UA signaling link set.	M117440657.S117465114	Sum	hustrafbh, Sum
Msg_rec	ACCUMULATION	INTEGER	Number of data messages received from the peer through this M3UA link set.	M117440657.S117465117	Sum	hustrafbh, Sum

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Msg_sent	ACCUMULATION	INTEGER	Number of data messages sent to the peer through this M3UA link set.	M117440657.S117465115	Sum	hustrafbh, Sum
Octets_rec	ACCUMULATION	INT8	Total size of the data packets received from the peer through this M3UA link set in Kbytes.	M117440657.S117465118	Sum	hustrafbh, Sum
Octets_sent	ACCUMULATION	INT8	Total size of the data packets sent to the peer through this M3UA link set in Kbytes.	M117440657.S117465116	Sum	hustrafbh, Sum
Unavailable_times	ACCUMULATION	INTEGER	Number of M3UA link transmissions in the M3UA signaling link set.	M117440657.S117465113	Sum	hustrafbh, Sum

7.18 MTP3_Link Performance Indicators

This section shows the key performance indicators and other counters for the MTP3_Link object, divided into the following sub-sections:

- MTP3_Link.Huawei.GPRS.MTP3_link

7.18.1 MTP3_Link.Huawei.GPRS.MTP3_link

MTP3 link measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
Duration_of_fault	ACCUMULATION	INTEGER	Duration when L2 of the signalling link cannot transmit	M117440623.S117461716	Sum	humtp3tbh, Sum

			services.			
Durations_of_congestion	ACCUMULATION	INTEGER	Duration of the signalling link send congestion.	M117440623.S117461731	Sum	humtp3tbh, Sum
Durations_of_in_service	ACCUMULATION	INTEGER	Duration of the signaling link in service.	M117440623.S117461713	Sum	humtp3tbh, Sum
Durations_of_local_LIN	ACCUMULATION	INTEGER	Duration when the signalling link is at the status of local management prohibited.	M117440623.S117461718	Sum	humtp3tbh, Sum
Durations_of_remote_LIN	ACCUMULATION	INTEGER	Duration when the signalling link is at the status of remote management prohibited.	M117440623.S117461720	Sum	humtp3tbh, Sum
Durations_of_remote_processor_fault	ACCUMULATION	INTEGER	Duration of the remote processor fault of the signalling link.	M117440623.S117461722	Sum	humtp3tbh, Sum
Durations_of_unavailable	ACCUMULATION	INTEGER	Duration of the signaling link when it is unavailable (unable to provide service transmission).	M117440623.S117461714	Sum	humtp3tbh, Sum
Fault_times	ACCUMULATION	INTEGER	Number of times layer 2 of the signalling link is at the service	M117440623.S117461715	Sum	humtp3tbh, Sum

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			interrupted status (SIOS).			
Local_auto_changeover_times	ACCUMULATION	INTEGER	Number of local automatic switchovers occurring to the signalling link.	M117440623.S117461723	Sum	humtp3tbh, Sum
Local_LIN_times	ACCUMULATION	INTEGER	Number of times the signalling link is local management prohibited.	M117440623.S117461717	Sum	humtp3tbh, Sum
MSU_discarded_for_congestion	ACCUMULATION	INTEGER	Number of discarded message signalling units due to congestion of the signaling link.	M117440623.S117461732	Sum	humtp3tbh, Sum
MTP3_MSU_OCTETS_received	ACCUMULATION	INT8	Obsolete from CN-SGSN/V900R010.C01SPC022: Number of MTP3 MSU OCTETS received	M117440623.S117461739	Sum	humtp3tbh, Sum
MTP3_MSU_octets_send_and_received	ACCUMULATION	INT8	Number of MSU octets sent to and received from MTP L2.	M117440623.S117461736	Sum	humtp3tbh, Sum
MTP3_MSU_OCTETS_sent	ACCUMULATION	INT8	Obsolete from CN-SGSN/V900R010.C01SPC022: Number of MTP3 MSU OCTETS sent	M117440623.S117461738	Sum	humtp3tbh, Sum

MTP3_MSU_rec	ACCUMULATION	INT8	Number of MSUs received by MTP L3 that is sent from MTP L2.	M117440623.S117461725	Sum	humtp3tbh, Sum
MTP3_MSU_send_and_received	ACCUMULATION	INT8	Number of MSUs sent to and received from MTP L2.	M117440623.S117461734	Sum	humtp3tbh, Sum
MTP3_MSU_sent_received	ACCUMULATION	INT8	Number of MSUs sent and received.	{MTP3_MSU_sent} + {MTP3_MSU_rec}	Sum	humtp3tbh, Sum
MTP3_MSU_sent	ACCUMULATION	INT8	Number of MSUs sent from MTP L3 to MTP L2.	M117440623.S117461724	Sum	humtp3tbh, Sum
MTP3_rec_TFP	ACCUMULATION	INTEGER	Number of received TFP signals.	M117440623.S117461733	Sum	humtp3tbh, Sum
MTP3_SIF_and_SIO_Octets_rec	ACCUMULATION	INT8	Number of SIF and SIO octets received by MTP L3 that are sent from MTP L2.	M117440623.S117461727	Sum	humtp3tbh, Sum
MTP3_SIF_and_SIO_OCTETS_sent_and_received	ACCUMULATION	INT8	Number of SIF and SIO octets sent to and received from MTP L2 .	M117440623.S117461735	Sum	humtp3tbh, Sum
MTP3_SIF_and_SIO_Octets_sent	ACCUMULATION	INT8	Number of SIF and SIO octets sent from MTP L3 to MTP L2.	M117440623.S117461726	Sum	humtp3tbh, Sum
Number_of_co	ACCUMULA	INTEG	Number of	M117440623.S117	Sum	humtp3tb

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ngestion	TION	ER	congestion of the signalling link.	461730		h, Sum
Peak_value_of_MTP3_MSU_octets_send_and_received	INTENSITY	INT8	Peak value of MSU octets sent to and received from MTP L2.	M117440623.S117461737	Average	Average, humtp3tbh, Maximum, Minimum, Sum
Receive_load_erl	ERLANG	FLOAT	Occupation percentage of the information received by the signalling link within the unit time.	M117440623.S117461729	Average	Average, humtp3tbh, Maximum, Minimum, Sum
Remote_LIN_times	ACCUMULATION	INTEGER	Number of times the signalling link is remote management prohibited.	M117440623.S117461719	Sum	humtp3tbh, Sum
Remote_processor_fault_times	ACCUMULATION	INTEGER	Number of remote processor faults of the signalling link.	M117440623.S117461721	Sum	humtp3tbh, Sum
Send_load_erl	ERLANG	FLOAT	Occupation percentage of the information sent from the signalling link within the unit time.	M117440623.S117461728	Average	Average, humtp3tbh, Maximum, Minimum, Sum

7.19 MTP3_LinkPoint Performance Indicators

This section shows the key performance indicators and other counters for the MTP3_LinkPoint object, divided into the following sub-sections:

- MTP3_LinkPoint.Huawei.GPRS.MTP3_DPC

7.19.1 MTP3_LinkPoint.Huawei.GPRS.MTP3_DPC

MTP3 DPC measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
Inaccessibility_durations	ACCUMULATION	INTEGER	Total duration of inaccessibility of the destination signaling point within the measurement period.	M117440625.S117461914	Sum	hustrafbh, Sum
Inaccessibility_times	ACCUMULATION	INTEGER	Number of inaccessibility times of the destination signaling point.	M117440625.S117461913	Sum	hustrafbh, Sum

7.20 MTP3_LinkSet Performance Indicators

This section shows the key performance indicators and other counters for the MTP3_LinkSet object, divided into the following sub-sections:

- MTP3_LinkSet.Huawei.GPRS.MTP3_link_set

7.20.1 MTP3_LinkSet.Huawei.GPRS.MTP3_link_set

MTP3 link set measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
Durations_of_fault	ACCUMULATION	INTEGER	Total duration of unusable signaling link set.	M117440624.S117461814	Sum	hulsinbh, hulsoutbh, hustrafbh, Sum

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Fault_times	ACCUMULATION	INTEGER	The times when signaling link set turns failure.	M117440624.S117461813	Sum	hulsinbh, hulsoutbh, hustrafbh, Sum
MTP3_duration_out_of_service	ACCUMULATION	INTEGER	MTP3 times out of service within link set	M117440624.S117461816	Sum	hulsinbh, hulsoutbh, hustrafbh, Sum
MTP3_link_set_receive_load_erl	ERLANG	FLOAT	Mean value of receiving load of signaling link set. Number of octets sent by the signaling link set(Kbyte) + Number of MSUs received by the signaling link set * 6 / 1024) * 8 / (64 * Measurement period (second) * timeslot number)2M link:(Number of octets sent by the signaling link set(Kbyte) + Number of MSUs received by the signaling link set * 6 / 1024) * 8 / (64 * Measurement period (second) * timeslot number.	M117440624.S117461822	Average	Average, hulsinbh, hulsoutbh, hustrafbh, Maximum, Minimum, Sum
MTP3_link_set_send_load_erl	ERLANG	FLOAT	Mean value of sending load of signaling link set. Number of octets sent by	M117440624.S117461821	Average	Average, hulsinbh, hulsoutbh, hustrafbh

			the signaling link set(Kbyte) + Number of MSUs sent from the signaling link set * 6 / 1024) * 8 / (64 * Measurement period (second) * timeslot number)2M link:(Number of octets sent by the signaling link set(Kbyte) + Number of MSUs sent from the signaling link set * 6 / 1024) * 8 / (64 * Measurement period (second) * timeslot number.			, Maximum, Minimum, Sum
MTP3_MSU_received	ACCUMULATION	INTEGER	Number of MSUs received for each link set.	M117440624.S117461818	Sum	hulsinbh, hulsoutbh, hustrafbh, Sum
MTP3_MSU_sent	ACCUMULATION	INTEGER	Number of MSUs sent for each link set.	M117440624.S117461817	Sum	hulsinbh, hulsoutbh, hustrafbh, Sum
MTP3_out_of_service	INTENSITY	INTEGER	MTP3 numbers out of service within link set	M117440624.S117461815	Average	Average, hulsinbh, hulsoutbh, hustrafbh,

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						Maximum, Minimum, Sum
MTP3_SIF_and_SIO_OCTETS_received	ACCUMULATION	INT8	Number of SIF and SIO octets received for each link set.	M117440624.S117461820	Sum	hulsinbh, hulsoutbh, hustrafbh, Sum
MTP3_SIF_and_SIO_OCTETS_sent	ACCUMULATION	INT8	Number of SIF and SIO octets sent for each link set.	M117440624.S117461819	Sum	hulsinbh, hulsoutbh, hustrafbh, Sum

7.21 MTP3_Route Performance Indicators

This section shows the key performance indicators and other counters for the MTP3_Route object, divided into the following sub-sections:

- MTP3_Route.Huawei.GPRS.MTP3_route

7.21.1 MTP3_Route.Huawei.GPRS.MTP3_route

(Obsolete from V900R010) MTP3 route measurements

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
MTP3_route_durations_of_fault	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: MTP3 route durations of fault	M117440719.S117474214	Sum	hustrafbh
MTP3_route_fault_times	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: MTP3 route fault times	M117440719.S117474213	Sum	hustrafbh

7.22 MTP3B_Link Performance Indicators

This section shows the key performance indicators and other counters for the MTP3B_Link object, divided into the following sub-sections:

- MTP3B_Link.Huawei.GPRS.MTP3B_Link
- MTP3B_Link.Huawei.GPRS.SAAL_SGSN_link

7.22.1 MTP3B_Link.Huawei.GPRS.MTP3B_Link

MTP3B Link measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
Changeover_times	ACCUMULATION	INTEGER	Number of local automatic switchovers occurring to the signaling link.	M117440546.S117454020	Sum	humtp3btbh, Sum
Congestion_times	ACCUMULATION	INTEGER	Number of signaling link congestions.	M117440546.S117454025	Sum	humtp3btbh, Sum
Durations_of_congestion	ACCUMULATION	INTEGER	The duration of the signaling link congestion.	M117440546.S117454026	Sum	humtp3btbh, Sum
Durations_of_fault	ACCUMULATION	INTEGER	The duration of the signaling link when it is unavailable (unable to provide service transmission).	M117440546.S117454015	Sum	humtp3btbh, Sum
Durations_of_in_service	ACCUMULATION	INTEGER	The duration of the signaling link in service.	M117440546.S117454013	Sum	humtp3btbh, Sum
Durations_of_local_LIN	ACCUMULATION	INTEGER	The duration when the signaling link is	M117440546.S117454017	Sum	humtp3btbh, Sum

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			at the status of being local inhibited by the local management.			
Durations_of_remote_LIN	ACCUMULATION	INTEGER	The duration when the signaling link is at the status of being inhibited by the remote management.	M117440546.S117454019	Sum	humtp3btbh, Sum
Fault_times	ACCUMULATION	INTEGER	Number of failures of the MTP3B signaling link.	M117440546.S117454014	Sum	humtp3btbh, Sum
Local_LIN_times	ACCUMULATION	INTEGER	Number of the signaling link being local inhibited times by the local management.	M117440546.S117454016	Sum	humtp3btbh, Sum
MTP3B_MSU_rec	ACCUMULATION	INTEGER	Number of MSUs received by MTP3B from SAAL.	M117440546.S117454022	Sum	humtp3btbh, Sum
MTP3B_MSU_sent	ACCUMULATION	INTEGER	Number of MSUs sent from MTP3B to SAAL.	M117440546.S117454021	Sum	humtp3btbh, Sum
MTP3B_MSUs	ACCUMULATION	INTEGER	Number of MSUs sent and received from/to MTP3B	M117440546.S117454021 +S117454022	Sum	humtp3btbh, Sum
MTP3B_SIF_and_SIO_OCTETS_rec	ACCUMULATION	INT8	Number of SIF and SIO octets received by MTP3B that are sent from SAAL.	M117440546.S117454024	Sum	humtp3btbh, Sum
MTP3B_SIF_a	ACCUMULA	INT8	Number of SIF	M117440546.S117	Sum	humtp3bt

nd_SIO_OCTETS_sent	TION		and SIO octets sent from MTP3B to SAAL.	454023		bh, Sum
Receiving_occupation_percentage	INTENSITY	FLOAT	The occupation percentage of the information received by the signaling link within the unit time. Signaling link receiving occupation percentage = (Number of octets received by the signaling link + Number of MSUs received by the signaling link * 6)/8K/Measurement period (second)	M117440546.S117454028	Average	Average, humtp3btbh, Maximum, Minimum, Sum
Remote_LIN_times	ACCUMULATION	INTEGER	Number of the signaling link being inhibited times by the remote management.	M117440546.S117454018	Sum	humtp3btbh, Sum
Sending_occupation_percentage	INTENSITY	FLOAT	The occupation percentage of the information sent from the signaling link within the unit time. Signaling link sending occupation percentage =	M117440546.S117454027	Average	Average, humtp3btbh, Maximum, Minimum, Sum

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			(Number of octets sent by the signaling link + Number of MSUs sent from the signaling link * 6)/8K/Measurement period (second)			

7.22.2 MTP3B_Link.Huawei.GPRS.SAAL_SGSN_link

SAAL link measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
Congestion_times	ACCUMULATION	INTEGER	The duration of times the SAAL link is in congestion.	M117440549.S117454317	Sum	humtp3btbh, Sum
Durations_of_in_Service	ACCUMULATION	INTEGER	The duration where the SAAL link is at the In_Service status.	M117440549.S117454313	Sum	humtp3btbh, Sum
Errors_times_too_high_BER	ACCUMULATION	INTEGER	Number of times the bit error ratio of the SAAL link is too high.	M117440549.S117454316	Sum	humtp3btbh, Sum
Fail_times	ACCUMULATION	INTEGER	Number of failures of the SAAL link.	M117440549.S117454314	Sum	humtp3btbh, Sum
Initialization_fail_times	ACCUMULATION	INTEGER	Number of failures of the SAAL link initialization	M117440549.S117454318	Sum	humtp3btbh, Sum
Message_element_of_other_types_err	ACCUMULATION	INTEGER	Number of SAAL message element errors	M117440549.S117454322	Sum	humtp3btbh, Sum

			(MAA error type: Q-U).			
Message_resent_fail_times	ACCUMULATION	INTEGER	Number of times resending of message packets of the SAAL link fails.	M117440549.S117454320	Sum	humtp3btbh, Sum
No_response_timer_timeout	ACCUMULATION	INTEGER	Number of times when the time is out for the No_Response timer of the SAAL link.	M117440549.S117454315	Sum	humtp3btbh, Sum
Rec_status_dismatching_message	ACCUMULATION	INTEGER	Number of message packets received by the SAAL link that are not in match with the status.	M117440549.S117454321	Sum	humtp3btbh, Sum
Sequence_pkts_lost	ACCUMULATION	INTEGER	Number of SD packets lost at the SAAL link.	M117440549.S117454319	Sum	humtp3btbh, Sum

7.23 MTP3B_LinkSet Performance Indicators

This section shows the key performance indicators and other counters for the MTP3B_LinkSet object, divided into the following sub-sections:

- MTP3B_LinkSet.Huawei.GPRS.MTP3B_link_set

7.23.1 MTP3B_LinkSet.Huawei.GPRS.MTP3B_link_set

MTP3B link set measurement

KPI	Type	Data	Description	Derivation	Default	Other

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		Type			Aggregator	Aggregators
Durations_of_fault	ACCUMULATION	INTEGER	Total duration of unusable signaling link set.	M117440547.S117454114	Sum	hustrafbh, Sum
Fault_times	ACCUMULATION	INTEGER	The times when signaling link set turns failure.	M117440547.S117454113	Sum	hustrafbh, Sum

7.24 MTP3B_Point Performance Indicators

This section shows the key performance indicators and other counters for the MTP3B_Point object, divided into the following sub-sections:

- MTP3B_Point.Huawei.GPRS.MTP3B_signal_point

7.24.1 MTP3B_Point.Huawei.GPRS.MTP3B_signal_point

MTP3B signal point measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
Inaccessibility_durations	ACCUMULATION	INTEGER	Total duration of inaccessibility of the destination signaling point within the measurement period.	M117440548.S117454214	Sum	hustrafbh, Sum
Inaccessibility_times	ACCUMULATION	INTEGER	Number of inaccessibility times of the destination signaling point.	M117440548.S117454213	Sum	hustrafbh, Sum

7.25 MVNO Performance Indicators

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

- MVNO.Huawei.GPRS.Gb_Mode_Attach_with_MVNO
- MVNO.Huawei.GPRS.Gb_Mode_Inter_SGSN_RAU_with_MVNO
- MVNO.Huawei.GPRS.Gb_Mode_Intra_SGSN_RAU_with_MVNO
- MVNO.Huawei.GPRS.Gb_Mode_PDP_Context_Activation_with_MVNO
- MVNO.Huawei.GPRS.Gb_Mode_Radio_Resource_with_MVNO
- MVNO.Huawei.GPRS.Gb_Mode_SM_Resource_with_MVNO
- MVNO.Huawei.GPRS.Iu_Mode_Attach_with_MVNO
- MVNO.Huawei.GPRS.Iu_Mode_Inter_SGSN_RAU_with_MVNO
- MVNO.Huawei.GPRS.Iu_Mode_Intra_SGSN_RAU_with_MVNO
- MVNO.Huawei.GPRS.Iu_Mode_PDP_Context_Activation_with_MVNO
- MVNO.Huawei.GPRS.Iu_Mode_Radio_Resource_with_MVNO
- MVNO.Huawei.GPRS.Iu_Mode_SM_Resource_with_MVNO

7.25.1 MVNO.Huawei.GPRS.Gb_Mode_Attach_with_MVNO

Gb Mode Attach with MVNO measurement

The performance data measurements for this KPI group are recorded against the combination of MVNO and SGSN (sgsn_id) .

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
_%_Combined_attach_accept	PERCENTAGE	FLOAT	Percentage of GPRS/IMSI attachment successes within the SGSN.	100 * {Combined_attach_accept}/ {Combined_attach_request}	Average	Average
_%_GPRS_attach_accept	PERCENTAGE	FLOAT	Percentage of GPRS attachment successes within the SGSN.	100 * {GPRS_attach_accept}/ {GPRS_attach_request}	Average	Average
Combined_attach_accept	ACCUMULATION	INTEGER	Number of GPRS/IMSI attachment successes within the	M117440633.S117462716	Sum	Sum

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			SGSN.			
Combined_attach_request	ACCUMULATION	INTEGER	Number of combined GPRS/IMAI attachment requests within the SGSN.	M117440633.S117462715	Sum	Sum
GPRS_attach_accept	ACCUMULATION	INTEGER	Number of GPRS attachment successes within the SGSN.	M117440633.S117462714	Sum	Sum
GPRS_attach_request	ACCUMULATION	INTEGER	Number of GPRS attachment requests within the SGSN.	M117440633.S117462713	Sum	Sum

7.25.2 MVNO.Huawei.GPRS.Gb_Mode_Inter_SGSN_RAU_with_MVNO

Gb Mode Inter SGSN RAU with MVNO measurement

The performance data measurements for this KPI group are recorded against the combination of MVNO and SGSN (sgsn_id) .

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
_%_RAU_success	PERCENTAGE	FLOAT	Percentage of inter-SGSN RAU successes within this SGSN area.	100 * {RAU_success}/{RAU_request}	Average	Average
RAU_request	ACCUMULATION	INTEGER	Number of inter-SGSN RAU requests within the SGSN area.	M117440635.S117462913	Sum	Sum
RAU_success	ACCUMULATION	INTEGER	Number of inter-SGSN RAU successes	M117440635.S117462914	Sum	Sum

			within this SGSN area.			

7.25.3 MVNO.Huawei.GPRS.Gb_Mode_Intra_SGSN_RAU_with_MVNO

Gb Mode Intra SGSN RAU with MVNO measurement

The performance data measurements for this KPI group are recorded against the combination of MVNO and SGSN (sgsn_id) .

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
_%_RAU_success	PERCENTAGE	FLOAT	Percentage of intra-SGSN RAU successes within this SGSN area.	100 * {RAU_success}/ {RAU_request}	Average	Average
RAU_request	ACCUMULATION	INTEGER	Number of intra-SGSN RAU requests within the SGSN area.	M117440634.S117462813	Sum	Sum
RAU_success	ACCUMULATION	INTEGER	Number of intra-SGSN RAU successes within this SGSN area.	M117440634.S117462814	Sum	Sum

7.25.4 MVNO.Huawei.GPRS.Gb_Mode_PDP_Context_Activation_with_MVNO

Gb Mode PDP Context Activation with MVNO measurement

The performance data measurements for this KPI group are recorded against the combination of MVNO and SGSN (sgsn_id) .

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
MS_init_PDP_	ACCUMULA	INTEG	Number of	M117440641.S117	Sum	Sum

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context_act_reject	TION	ER	rejected MS-initiated PDP context activations in a specified MVNO	463515		
MS_init_PDP_context_act_success	ACCUMULATION	INTEGER	Number of successful MS-initiated PDP context activations in a specified MVNO	M117440641.S117463514	Sum	Sum
MS_init_PDP_context_act	ACCUMULATION	INTEGER	Number of MS-initiated PDP context activation attempts in a specified MVNO	M117440641.S117463513	Sum	Sum

7.25.5 MVNO.Huawei.GPRS.Gb_Mode_Radio_Resource_with_MVNO

Gb Mode Radio Resource with MVNO measurement

The performance data measurements for this KPI group are recorded against the combination of MVNO and SGSN (sgsn_id) .

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
Attached_users	INTENSITY	INTEGER	Number of attached mobile users in specific MVNO	M117440636.S117463013	Average	Average, Maximum, Minimum, Sum

7.25.6 MVNO.Huawei.GPRS.Gb_Mode_SM_Resource_with_MVNO

Gb Mode SM Resource with MVNO measurement

The performance data measurements for this KPI group are recorded against the combination of MVNO and SGSN (sgsn_id) .

KPI	Type	Data	Description	Derivation	Default	Other

		Type			Aggregator	Aggregators
Activated_PDP	INTENSITY	INTEGER	Number of Active PDP Sessions in a specified MVNO	M117440642.S117463613	Average	Average, Maximum, Minimum, Sum
Avg_act_PDP_Sessions_background	INTENSITY	INTEGER	Number of Active PDP Sessions for the background QoS Class in a specified MVNO	M117440642.S117463617	Average	Average, Maximum, Minimum, Sum
Avg_act_PDP_Sessions_conversation	INTENSITY	INTEGER	Number of Active PDP Sessions for the conversational QoS Class in a specified MVNO	M117440642.S117463615	Average	Average, Maximum, Minimum, Sum
Avg_act_PDP_Sessions_interactive	INTENSITY	INTEGER	Number of Active PDP Sessions for the interactive QoS Class in a specified MVNO	M117440642.S117463614	Average	Average, Maximum, Minimum, Sum
Avg_act_PDP_Sessions_streaming	INTENSITY	INTEGER	Number of Active PDP Sessions for the streaming QoS Class in a specified MVNO	M117440642.S117463616	Average	Average, Maximum, Minimum, Sum

7.25.7 MVNO.Huawei.GPRS.Iu_Mode_Attach_with_MVNO

Iu Mode Attach with MVNO measurement

The performance data measurements for this KPI group are recorded against the combination of MVNO and SGSN (sgsn_id) .

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KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
_%_Combined_attach_accept	PERCENTAGE	FLOAT	Percentage of GPRS/IMSI attachment successes within the SGSN.	100 * {Combined_attach_accept}/ {Combined_attach_request}	Average	Average
_%_GPRS_attach_accept	PERCENTAGE	FLOAT	Percentage of GPRS attachment successes within the SGSN.	100 * {GPRS_attach_accept}/ {GPRS_attach_request}	Average	Average
Combined_attach_accept	ACCUMULATION	INTEGER	Number of GPRS/IMSI attachment successes within the SGSN.	M117440637.S117463116	Sum	Sum
Combined_attach_request	ACCUMULATION	INTEGER	Number of combined GPRS/IMSI attachment requests within the SGSN.	M117440637.S117463115	Sum	Sum
GPRS_attach_accept	ACCUMULATION	INTEGER	Number of GPRS attachment successes within the SGSN.	M117440637.S117463114	Sum	Sum
GPRS_attach_request	ACCUMULATION	INTEGER	Number of GPRS attachment requests within the SGSN.	M117440637.S117463113	Sum	Sum

7.25.8 MVNO.Huawei.GPRS.Iu_Mode_Inter_SGSN_RAU_with_MVNO

Iu Mode Inter SGSN RAU with MVNO measurement

The performance data measurements for this KPI group are recorded against the combination of MVNO and SGSN (sgsn_id) .

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
_%_RAU_success	PERCENTAGE	FLOAT	Percentage of inter-SGSN RAU successes within this SGSN area.	100 * {RAU_success}/ {RAU_request}	Average	Average
RAU_request	ACCUMULATION	INTEGER	Number of inter-SGSN RAU requests within the SGSN area.	M117440639.S117463313	Sum	Sum
RAU_success	ACCUMULATION	INTEGER	Number of inter-SGSN RAU successes within this SGSN area.	M117440639.S117463314	Sum	Sum

7.25.9 MVNO.Huawei.GPRS.Iu_Mode_Intra_SGSN_RAU_with_MVNO

Iu Mode Intra SGSN RAU with MVNO measurement

The performance data measurements for this KPI group are recorded against the combination of MVNO and SGSN (sgsn_id) .

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
_%_RAU_success	PERCENTAGE	FLOAT	Percentage of intra-SGSN RAU successes within this SGSN area.	100 * {RAU_success}/ {RAU_request}	Average	Average
RAU_request	ACCUMULATION	INTEGER	Number of intra-SGSN	M117440638.S117463213	Sum	Sum

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			RAU requests within the SGSN area.			
RAU_success	ACCUMULATION	INTEGER	Number of intra-SGSN RAU successes within this SGSN area.	M117440638.S117463214	Sum	Sum

7.25.10MVNO.Huawei.GPRS.Iu_Mode_PDP_Context_Activation_with_MVNO

Iu Mode PDP Context Activation with MVNO measurement

The performance data measurements for this KPI group are recorded against the combination of MVNO and SGSN (sgsn_id) .

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
MS_init_PDP_context_act_reject	ACCUMULATION	INTEGER	Number of first PDP context activation failures	M117440643.S117463715	Sum	Sum
MS_init_PDP_context_act_success	ACCUMULATION	INTEGER	Number of successes of MS-initiated first PDP context activation.	M117440643.S117463714	Sum	Sum
MS_init_PDP_context_act	ACCUMULATION	INTEGER	Number of attempts of MS-initiated first PDP context activation using static or dynamic PDP address.	M117440643.S117463713	Sum	Sum

7.25.11MVNO.Huawei.GPRS.Iu_Mode_Radio_Resource_with_MVNO

Iu Mode Radio Resource with MVNO measurement

The performance data measurements for this KPI group are recorded against the combination of MVNO and SGSN (sgsn_id) .

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
Attached_users	INTENSITY	INTEGER	Number of attached mobile users in specific MVNO	M117440640.S117463413	Average	Average, Maximum, Minimum, Sum

7.25.12MVNO.Huawei.GPRS.Iu_Mode_SM_Resource_with_MVNO

Iu Mode SM Resource with MVNO measurement

The performance data measurements for this KPI group are recorded against the combination of MVNO and SGSN (sgsn_id) .

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
Activated_PDP	INTENSITY	INTEGER	Number of Active PDP Sessions in a specified MVNO	M117440644.S117463813	Average	Average, Maximum, Minimum, Sum
Avg_act_PDP_Sessions_background	INTENSITY	INTEGER	Number of Active PDP Sessions for the background QoS Class in a specified MVNO	M117440644.S117463817	Average	Average, Maximum, Minimum, Sum
Avg_act_PDP_Sessions_conversation	INTENSITY	INTEGER	Number of Active PDP Sessions for the conversational QoS Class in a specified MVNO	M117440644.S117463815	Average	Average, Maximum, Minimum, Sum
Avg_act_PDP_Sessions_interactive	INTENSITY	INTEGER	Number of Active PDP Sessions for the	M117440644.S117463814	Average	Average, Maximum,

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			interactive QoS Class in a specified MVNO			Minimum, Sum
Avg_act_PDP_Sessions_streaming	INTENSITY	INTEGER	Number of Active PDP Sessions for the streaming QoS Class in a specified MVNO	M117440644.S117463816	Average	Average, Maximum, Minimum, Sum

7.26 NSE Performance Indicators

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

- NSE.Huawei.GPRS.BSSGP_with_Specific_NSE
- NSE.Huawei.GPRS.NS_with_Specific_NSE

7.26.1 NSE.Huawei.GPRS.BSSGP_with_Specific_NSE

BSSGP with Specific NSE measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
FLUSH_LL_ACK_msg_rec_from_BSS	ACCUMULATION	INTEGER	Number of received cell data deletion/transfer response messages.	M117440525.S117451918	Sum	hustrafbh, Sum
FLUSH_LL_msg_sent_to_BSS	ACCUMULATION	INTEGER	Number of sent cell data deletion/transfer messages.	M117440525.S117451917	Sum	hustrafbh, Sum
NSE_reset_ack_msg_rec_from_BSS	ACCUMULATION	INTEGER	Number of received NSE reset response messages.	M117440525.S117451916	Sum	hustrafbh, Sum
NSE_reset_ack_msg_sent_to_BSS	ACCUMULATION	INTEGER	Number of NSE reset response messages.	M117440525.S117451914	Sum	hustrafbh, Sum

NSE_reset_msg_rec_from_BSS	ACCUMULATION	INTEGER	Number of received NSE reset messages.	M117440525.S117451915	Sum	hustrafbh, Sum
NSE_reset_msg_sent_to_BSS	ACCUMULATION	INTEGER	Number of sent NSE reset messages.	M117440525.S117451913	Sum	hustrafbh, Sum
Pkts_buffered_due_to_FLUSH_LL	ACCUMULATION	INTEGER	Number of packets buffered due to FLUSH_LL.	M117440525.S117451919	Sum	hustrafbh, Sum
Pkts_dropped_due_to_FLUSH_LL	ACCUMULATION	INTEGER	Number of packets dropped due to FLUSH_LL.	M117440525.S117451920	Sum	hustrafbh, Sum

7.26.2 NSE.Huawei.GPRS.NS_with_Specific_NSE

NS with Specific NSE measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
Data_amount_rec_by_NS	ACCUMULATION	INT8	The data amount received by NSE.	M117440524.S117451814	Sum	hustrafbh, Sum
Data_amount_sent_by_NS	ACCUMULATION	INT8	The data amount sent from NSE.	M117440524.S117451813	Sum	hustrafbh, Sum
DL_data_amount_dropped_by_NS	ACCUMULATION	INT8	The downlink data amount discarded by NSE.	M117440524.S117451815	Sum	hustrafbh, Sum
Peak_Data_amount_rcvd_by_NS	INTENSITY	FLOAT	Obsolete from CN-SGSN/V900R010.C01SPC022:	M117440524.S117451820	Average	hustrafbh, Sum, Minimum,

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			Peak Data amount received by NS			Maximum
Peak_Data_amount_sent_by_NS	INTENSITY	FLOAT	Obsolete from CN-SGSN/V900R010.C01SPC022: Peak Data amount sent by NS	M117440524.S117451819	Average	hustrafbh, Sum, Minimum, Maximum
Pkts_dropped_by_NS	ACCUMULATION	INTEGER	Total number of data packets dropped by NSE.	M117440524.S117451818	Sum	hustrafbh, Sum
Pkts_rec_by_NS	ACCUMULATION	INTEGER	Total number of data packets received by NSE.	M117440524.S117451817	Sum	hustrafbh, Sum
Pkts_sent_by_NS	ACCUMULATION	INTEGER	Total number of data packets sent from NSE.	M117440524.S117451816	Sum	hustrafbh, Sum

7.27 NSVC Performance Indicators

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

- NSVC.Huawei.GPRS.NS_with_Specific_NSVC

7.27.1 NSVC.Huawei.GPRS.NS_with_Specific_NSVC

NS with Specific NSVC measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
DL_and_UL_pkts_discarded	ACCUMULATION	INTEGER	Number of uplink and downlink data packets discarded by NSVC.	{UL_pkts_discarded} + {DL_pkts_discarded}	Sum	hunspbh, hustrafbh, Sum

DL_and_UL_pkts	ACCUMULATION	INTEGER	Number of uplink and downlink data packets sent and received from/by NSVC.	{UL_pkts_recv_from_FR} + {DL_pkts_sent_to_FR}	Sum	hunspbh, hustrafbh, Sum
DL_data_kbytes_discarded	ACCUMULATION	INT8	Number of downlink data kbytes discarded by NSVC.	M117440523.S117451732	Sum	hunspbh, hustrafbh, Sum
DL_data_kbytes_sent_to_FR	ACCUMULATION	INT8	Number of downlink data kbytes sent to FR from NSVC.	M117440523.S117451728	Sum	hunspbh, hustrafbh, Sum
DL_kB_disc_CIR_ovrflw_per_NSVC	ACCUMULATION	INT8	Number of downlink data kbytes discarded due to CIR overflow per NSVC	M117440523.S117451733	Sum	hunspbh, hustrafbh, Sum
DL_pkts_discarded	ACCUMULATION	INTEGER	Number of downlink data packets discarded by NSVC.	M117440523.S117451731	Sum	hunspbh, hustrafbh, Sum
DL_pkts_sent_to_FR	ACCUMULATION	INTEGER	Number of downlink data packets sent to FR from NSVC.	M117440523.S117451727	Sum	hunspbh, hustrafbh, Sum
NS_block_ack_msg_rec_from_BSS	ACCUMULATION	INTEGER	Number of BLOCK ACK messages received by NSVC from	M117440523.S117451716	Sum	hunspbh, hustrafbh, Sum

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			BSS.			
NS_block_ack_msg_sent_to_BSS	ACCUMULATION	INTEGER	Number of BLOCK ACK messages sent from NSVC.	M117440523.S117451715	Sum	hunspbh, hustrafbh, Sum
NS_block_ack_msg	ACCUMULATION	INTEGER	Number of BLOCK ACK messages sent and received from/by NSVC.	{NS_block_ack_msg_sent_to_BSS} + {NS_block_ack_msg_rec_from_BSS}	Sum	hunspbh, hustrafbh, Sum
NS_block_msg_rec_from_BSS	ACCUMULATION	INTEGER	Number of BLOCK messages received by NSVC from BSS.	M117440523.S117451714	Sum	hunspbh, hustrafbh, Sum
NS_block_msg_sent_to_BSS	ACCUMULATION	INTEGER	Number of BLOCK messages sent from NSVC.	M117440523.S117451713	Sum	hunspbh, hustrafbh, Sum
NS_block_msg	ACCUMULATION	INTEGER	Number of BLOCK messages sent and received from/by NSVC.	{NS_block_msg_sent_to_BSS} + {NS_block_msg_rec_from_BSS}	Sum	hunspbh, hustrafbh, Sum
NS_reset_ack_msg_rec_from_BSS	ACCUMULATION	INTEGER	Number of RESET ACK messages received by NSVC from BSS.	M117440523.S117451724	Sum	hunspbh, hustrafbh, Sum
NS_reset_ack_msg_sent_to_BSS	ACCUMULATION	INTEGER	Number of RESET ACK messages sent from NSVC.	M117440523.S117451723	Sum	hunspbh, hustrafbh, Sum
NS_reset_msg_rec_from_BSS	ACCUMULATION	INTEGER	Number of RESET messages received by NSVC.	M117440523.S117451722	Sum	hunspbh, hustrafbh, Sum

NS_reset_msg_sent_to_BSS	ACCUMULATION	INTEGER	Number of RESET messages sent from NSVC.	M117440523.S117451721	Sum	hunspbh, hustrafbh, Sum
NS_unblock_ack_msg_rec_from_BSS	ACCUMULATION	INTEGER	Number of UNBLOCK ACK messages received by NSVC from BSS.	M117440523.S117451720	Sum	hunspbh, hustrafbh, Sum
NS_unblock_ack_msg_sent_to_BSS	ACCUMULATION	INTEGER	Number of UNBLOCK ACK messages sent from NSVC.	M117440523.S117451719	Sum	hunspbh, hustrafbh, Sum
NS_unblock_ack_msg	ACCUMULATION	INTEGER	Number of UNBLOCK ACK messages sent and received from/by NSVC.	{NS_unblock_ack_msg_sent_to_BSS} + {NS_unblock_ack_msg_rec_from_BSS}	Sum	hunspbh, hustrafbh, Sum
NS_unblock_msg_rec_from_BSS	ACCUMULATION	INTEGER	Number of UNBLOCK messages received by NSVC.	M117440523.S117451718	Sum	hunspbh, hustrafbh, Sum
NS_unblock_msg_sent_to_BSS	ACCUMULATION	INTEGER	Number of UNBLOCK messages sent from NSVC.	M117440523.S117451717	Sum	hunspbh, hustrafbh, Sum
NS_unblock_msg	ACCUMULATION	INTEGER	Number of UNBLOCK messages sent and received from/by NSVC.	{NS_unblock_msg_sent_to_BSS} + {NS_unblock_msg_rec_from_BSS}	Sum	hunspbh, hustrafbh, Sum
UL_data_kbytes_discarded	ACCUMULATION	INT8	Number of uplink data	M117440523.S117451730	Sum	hunspbh, hustrafbh

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			kbytes discarded by NSVC.			, Sum
UL_data_kbytes_rec_from_FR	ACCUMULATION	INT8	Number of kbytes received by NSVC from FR.	M117440523.S117451726	Sum	hunspbh, hustrafbh, Sum
UL_pkts_discarded	ACCUMULATION	INTEGER	Number of uplink data packets discarded by NSVC.	M117440523.S117451729	Sum	hunspbh, hustrafbh, Sum
UL_pkts_recv_from_FR	ACCUMULATION	INTEGER	Number of uplink data packets received by NSVC from FR.	M117440523.S117451725	Sum	hunspbh, hustrafbh, Sum

7.28 NSVC_IP Performance Indicators

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

- NSVC_IP.Huawei.GPRS.NS_with_Specific_IP_NSVC

7.28.1 NSVC_IP.Huawei.GPRS.NS_with_Specific_IP_NSVC

NS with Specific IP NSVC measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
IP_NSVC_DL_data_kbytes_discarded	ACCUMULATION	INT8	Number of downlink data kbytes discarded by NSVC.	M117440669.S117466320	Sum	hustrafbh, Sum
IP_NSVC_DL_data_kbytes_sent_to_FR	ACCUMULATION	INT8	Number of downlink data kbytes sent to FR from	M117440669.S117466316	Sum	hustrafbh, Sum

			NSVC.			
IP_NSVC_DL_pkts_discarded	ACCUMULATION	INTEGER	Number of downlink data packets discarded by NSVC.	M117440669.S117466319	Sum	hustrafbh, Sum
IP_NSVC_DL_pkts_sent_to_FR	ACCUMULATION	INTEGER	Number of downlink data packets sent to FR from NSVC.	M117440669.S117466315	Sum	hustrafbh, Sum
IP_NSVC_UL_data_kbytes_discarded	ACCUMULATION	INT8	Number of uplink data kbytes discarded by NSVC.	M117440669.S117466318	Sum	hustrafbh, Sum
IP_NSVC_UL_data_kbytes_rec_from_FR	ACCUMULATION	INT8	Number of kbytes received by NSVC from FR.	M117440669.S117466314	Sum	hustrafbh, Sum
IP_NSVC_UL_pkts_discarded	ACCUMULATION	INTEGER	Number of uplink data packets discarded by NSVC.	M117440669.S117466317	Sum	hustrafbh, Sum
IP_NSVC_UL_pkts_rec_from_FR	ACCUMULATION	INTEGER	Number of uplink data packets received by NSVC from FR.	M117440669.S117466313	Sum	hustrafbh, Sum

7.29 RNC Performance Indicators

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

- RNC.Huawei.GPRS.Relocation_with_RNC

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7.29.1 RNC.Huawei.GPRS.Relocation_with_RNC

Inter-SGSN hard, soft and relocation handover per RNC

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
_%_Inter_hard_HO_success	PERCENTAGE	FLOAT	Percentage of successful inter-SGSN hard handovers.	100 * {Inter_hard_HO_success}/ {Inter_hard_HO_request}	Average	Average, hustrafbh
_%_Inter_soft_HO_success	PERCENTAGE	FLOAT	Percentage of successful inter-SGSN software handovers.	100 * {Inter_soft_HO_success}/ {Inter_soft_HO_request}	Average	Average, hustrafbh
_%_Intra_hard_HO_success	PERCENTAGE	FLOAT	Percentage of successful intra-SGSN hard handovers.	100 * {Intra_hard_HO_success}/ {Intra_hard_HO_request}	Average	Average, hustrafbh
_%_Intra_soft_HO_success	PERCENTAGE	FLOAT	Percentage of successful intra-SGSN soft handovers.	100 * {Intra_soft_HO_success}/ {Intra_soft_HO_request}	Average	Average, hustrafbh
Inter_hard_HO_request	ACCUMULATION	INTEGER	Number of SGSN-received inter-SGSN hard handover requests.	M117440582.S117457615	Sum	hustrafbh, Sum
Inter_hard_HO_success	ACCUMULATION	INTEGER	Number of successful inter-SGSN hard handovers.	M117440582.S117457616	Sum	hustrafbh, Sum
Inter_reloc_attempt_at_target_SGSN	ACCUMULATION	INTEGER	Number of inter-SGSN relocation requests in target SGSN.	M117440582.S117457623	Sum	hustrafbh, Sum

Inter_reloc_prep_suc_at_source_SGSN	ACCUMULATION	INTEGER	Number of successful inter-SGSN relocation preparation process in source SGSN.	M117440582.S117457621	Sum	hustrafbh, Sum
Inter_reloc_prep_suc_at_target_SGSN	ACCUMULATION	INTEGER	Number of successful inter-SGSN relocation complete process in target SGSN.	M117440582.S117457622	Sum	hustrafbh, Sum
Inter_soft_HO_request	ACCUMULATION	INTEGER	Number of times SGSN receives inter-SGSN soft handover requests.	M117440582.S117457613	Sum	hustrafbh, Sum
Inter_soft_HO_success	ACCUMULATION	INTEGER	Number of successful inter-SGSN software handovers.	M117440582.S117457614	Sum	hustrafbh, Sum
Intra_hard_HO_request	ACCUMULATION	INTEGER	Number of times SGSN receives the intra-SGSN hard handover request.	M117440582.S117457619	Sum	hustrafbh, Sum
Intra_hard_HO_success	ACCUMULATION	INTEGER	Number of successful intra-SGSN hard handovers.	M117440582.S117457620	Sum	hustrafbh, Sum
Intra_reloc_prep_suc_at_source_SGSN	ACCUMULATION	INTEGER	Number of successful intra-SGSN	M117440582.S117457624	Sum	hustrafbh, Sum

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			relocation preparation process in source SGSN.			
Intra_soft_HO_request	ACCUMULATION	INTEGER	Number of times SGSN receives intra-SGSN soft handover request.	M117440582.S117457617	Sum	hustrafbh, Sum
Intra_soft_HO_success	ACCUMULATION	INTEGER	Number of successful intra-SGSN soft handovers.	M117440582.S117457618	Sum	hustrafbh, Sum

7.30 Routing_Area Performance Indicators

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

- Routing_Area.Huawei.GPRS.Gb_Mode_Attach_with_RAI
- Routing_Area.Huawei.GPRS.Gb_Mode_Detach_with_RAI
- Routing_Area.Huawei.GPRS.Gb_Mode_Inter_SGSN_RAU_with_RAI
- Routing_Area.Huawei.GPRS.Gb_Mode_Intra_SGSN_RAU_with_RAI
- Routing_Area.Huawei.GPRS.Gb_Mode_Paging_with_RAI
- Routing_Area.Huawei.GPRS.Gb_Mode_Radio_Resource_with_RAI
- Routing_Area.Huawei.GPRS.Gb_Mode_SM_Resource_with_RAI
- Routing_Area.Huawei.GPRS.Inter_System_Switch_with_RAI
- Routing_Area.Huawei.GPRS.Iu_Mode_Attach_with_RAI
- Routing_Area.Huawei.GPRS.Iu_Mode_Detach_with_RAI
- Routing_Area.Huawei.GPRS.Iu_Mode_Inter_SGSN_RAU_with_RAI
- Routing_Area.Huawei.GPRS.Iu_Mode_Intra_SGSN_RAU_with_RAI
- Routing_Area.Huawei.GPRS.Iu_Mode_Paging_with_RAI
- Routing_Area.Huawei.GPRS.Iu_Mode_Radio_Resource_with_RAI
- Routing_Area.Huawei.GPRS.Iu_Mode_Service_Request_with_RAI
- Routing_Area.Huawei.GPRS.Iu_Mode_SM_Resource_with_RAI
- Routing_Area.Huawei.GPRS.Specific_Routing_Area_SM_2G
- Routing_Area.Huawei.GPRS.Specific_Routing_Area_SM_3G

7.30.1 Routing_Area.Huawei.GPRS.Gb_Mode_Attach_with_RAI

Gb Mode Attach with RAI measurement

KPI	Type	Data	Description	Derivation	Default	Other

		Type			Aggregator	Aggregators
_%_Com_attach_accept	PERCENTAGE	FLOAT	Percentage of GPRS/IMSI attachment successes within the SGSN.	100 * {Com_attach_accept}/ {Com_attach_request}	Average	Average, hustrafbh
_%_GPRS_attach_accept	PERCENTAGE	FLOAT	Percentage of GPRS attachment successes within the SGSN.	100 * {GPRS_attach_accept}/ {GPRS_attach_request}	Average	Average, hustrafbh
Attach_reject_Ge_fail	ACCUMULATION	INTEGER	Number of GPRS attachment failures within SGSN due to Ge protocol error.	M117440562.S117455624	Sum	hustrafbh, Sum
Attach_reject_GPRS_srvc_not_allow	ACCUMULATION	INTEGER	Number of GPRS attachment failures within SGSN due to GPRS services not allowed.	M117440562.S117455621	Sum	hustrafbh, Sum
Attach_reject_Gr_fail	ACCUMULATION	INTEGER	Number of GPRS attachment failures within SGSN due to Gr protocol error.	M117440562.S117455623	Sum	hustrafbh, Sum
Attach_reject_LA_not_allowed	ACCUMULATION	INTEGER	Number of GPRS attachment	M117440562.S117455617	Sum	hustrafbh, Sum

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			rejects due to Location Area not allowed.			
Attach_reject_protocol_error	ACCUMULATION	INTEGER	Number of GPRS attachment failures within SGSN due to protocol error.	M117440562.S117455622	Sum	hustrafbh, Sum
Attach_reject_roam_not_allowed	ACCUMULATION	INTEGER	Number of GPRS attachment failures within SGSN due to LA roaming restriction.	M117440562.S117455618	Sum	hustrafbh, Sum
Attach_reject_times_illegal_ME	ACCUMULATION	INTEGER	Number of GPRS attachment failures within SGSN due to illegal ME.	M117440562.S117455620	Sum	hustrafbh, Sum
Com_attach_accept	ACCUMULATION	INTEGER	Number of GPRS/IMSI attachment successes within the SGSN.	M117440562.S117455626	Sum	hustrafbh, Sum
Com_attach_rej_Ge_fail	ACCUMULATION	INTEGER	Number of combined GPRS/IMSI attachment failures within SGSN due to Ge protocol error.	M117440562.S117455636	Sum	hustrafbh, Sum
Com_attach_rej_GPRS_not_allow	ACCUMULATION	INTEGER	Number of combined GPRS/IMSI attachment rejects due to GPRS service is	M117440562.S117455628	Sum	hustrafbh, Sum

			not allowed in this PLMN.			
Com_attach_rej_GPRS_srvc_not_allow	ACCUMULATION	INTEGER	Number of combined GPRS/IMSI attachment failures within SGSN due to GPRS services not allowed.	M117440562.S117455633	Sum	hustrafbh, Sum
Com_attach_rej_Gr_fail	ACCUMULATION	INTEGER	Number of combined GPRS/IMSI attachment failures within SGSN due to Gr protocol error.	M117440562.S117455635	Sum	hustrafbh, Sum
Com_attach_rej_LA_not_allowed	ACCUMULATION	INTEGER	Number of combined GPRS/IMSI attachment rejects due to Location Area not allowed.	M117440562.S117455629	Sum	hustrafbh, Sum
Com_attach_rej_No_suit_Cells	ACCUMULATION	INTEGER	Number of combined GPRS/IMSI attachment failures within SGSN due to no suitable cells in LA.	M117440562.S117455631	Sum	hustrafbh, Sum
Com_attach_rej_protocol_error	ACCUMULATION	INTEGER	Number of combined GPRS/IMSI attachment failures within	M117440562.S117455634	Sum	hustrafbh, Sum

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			SGSN due to protocol error.			
Com_attach_rej_roam_not_allow	ACCUMULATION	INTEGER	Number of combined GPRS/IMSI attachment failures within SGSN due to LA roaming restriction.	M117440562.S117455630	Sum	hustrafbh, Sum
Com_attach_rej_times_ill_ME	ACCUMULATION	INTEGER	Number of combined GPRS/IMSI attachment failures within SGSN due to illegal ME.	M117440562.S117455632	Sum	hustrafbh, Sum
Com_attach_rej_times_ill_MS	ACCUMULATION	INTEGER	Number of combined GPRS/IMSI attachment rejects due to illegal mobile station.	M117440562.S117455627	Sum	hustrafbh, Sum
Com_attach_request	ACCUMULATION	INTEGER	Number of combined GPRS/IMAI attachment requests within the SGSN.	M117440562.S117455625	Sum	hustrafbh, Sum
Gb_GPRS_Att_rej_per_RA	ACCUMULATION	INTEGER	The number of GPRS attachment rejects within the SGSN.	M117440562.S117455651	Sum	hustrafbh, Sum
GPRS_att_ref_ill_ME_IMSI_attached	ACCUMULATION	INTEGER	Number of IMSI-attached GPRS attachment failures within SGSN due to illegal ME.	M117440562.S117455646	Sum	hustrafbh, Sum

GPRS_att_ref_ill_MS_IMSI_attached	ACCUMULATION	INTEGER	Number of IMSI-attached GPRS attachment rejects due to illegal mobile station.	M117440562.S117455641	Sum	hustrafbh, Sum
GPRS_attach_acc_while_IMSI_attached	ACCUMULATION	INTEGER	Number of IMSI-attached GPRS attachment successes within the SGSN.	M117440562.S117455640	Sum	hustrafbh, Sum
GPRS_attach_accept	ACCUMULATION	INTEGER	Number of GPRS attachment successes within the SGSN.	M117440562.S117455614	Sum	hustrafbh, Sum
GPRS_attach_reject_GPRS_not_allow	ACCUMULATION	INTEGER	Number of GPRS attachment rejects due to GPRS service is not allowed in this PLMN.	M117440562.S117455616	Sum	hustrafbh, Sum
GPRS_Attach_reject_No_suit_Cells	ACCUMULATION	INTEGER	Number of GPRS attachment failures within SGSN due to no suitable cells in LA.	M117440562.S117455619	Sum	hustrafbh, Sum
GPRS_attach_reject_times_illegal_MS	ACCUMULATION	INTEGER	Number of GPRS attachment rejects due to	M117440562.S117455615	Sum	hustrafbh, Sum

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			illegal mobile station.			
GPRS_attach_req_while_IMSI_attached	ACCUMULATION	INTEGER	Number of IMSI-attached GPRS attachment requests within the SGSN.	M117440562.S117455639	Sum	hustrafbh, Sum
GPRS_attach_request	ACCUMULATION	INTEGER	Number of GPRS attachment requests within the SGSN.	M117440562.S117455613	Sum	hustrafbh, Sum
GPRS_IMSI_attach_failed_MSC_unreach	ACCUMULATION	INTEGER	The number of times GPRS attachment succeeds but IMSI attachment fails (MSC presently unreachable).	M117440562.S117455638	Sum	hustrafbh, Sum
GPRS_IMSI_attach_failed_VLR_reject	ACCUMULATION	INTEGER	The GPRS attachment succeeds while the IMSI attachment fails (rejected by VLR).	M117440562.S117455637	Sum	hustrafbh, Sum
IMSI_att_GPRS_att_rej_LA_not_allow	ACCUMULATION	INTEGER	Number of IMSI-attached GPRS attachment of HPLMN users rejects due to Location Area not allowed.	M117440562.S117455643	Sum	hustrafbh, Sum
IMSI_att_reject_GPRS_srvc_not_allow	ACCUMULATION	INTEGER	Number of IMSI-attached GPRS attachment failures within SGSN due to	M117440562.S117455647	Sum	hustrafbh, Sum

			GPRS services not allowed.			
IMSI_att_reject_No_suit_Cells	ACCUMULATION	INTEGER	Number of IMSI-attached GPRS attachment failures within SGSN due to no suitable Cells in LA.	M117440562.S117455645	Sum	hustrafbh, Sum
IMSI_att_reject_roam_not_allow	ACCUMULATION	INTEGER	Number of IMSI-attached GPRS attachment of non-HPLMN users failures within SGSN due to LA roaming restriction.	M117440562.S117455644	Sum	hustrafbh, Sum
IMSI_attach_reject_Ge_fail	ACCUMULATION	INTEGER	Number of IMSI-attached GPRS attachment failures within SGSN due to Ge protocol error.	M117440562.S117455650	Sum	hustrafbh, Sum
IMSI_attach_reject_Gr_fail	ACCUMULATION	INTEGER	Number of IMSI-attached GPRS attachment failures within SGSN due to Gr protocol error.	M117440562.S117455649	Sum	hustrafbh, Sum
IMSI_attach_reject_protocol_e	ACCUMULATION	INTEGER	Number of IMSI-attached	M117440562.S117455648	Sum	hustrafbh, Sum

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rr			GPRS attachment failures within SGSN due to protocol error.			
IMSI_reject_GPRS_not_allow	ACCUMULATION	INTEGER	Number of IMSI-attached GPRS attachment rejects due to GPRS service is not allowed in this PLMN.	M117440562.S117455642	Sum	hustrafbh, Sum

7.30.2 Routing_Area.Huawei.GPRS.Gb_Mode_Detach_with_RAI

Gb Mode Detach with RAI measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
Detach_accept_message_sent	ACCUMULATION	INTEGER	Number of "detach accept" messages sent to MS.	M117440563.S117455719	Sum	hustrafbh, Sum
HLR_init_detach_request	ACCUMULATION	INTEGER	Number of detachment requests due to subscriber deletion by HLR.	M117440563.S117455718	Sum	hustrafbh, Sum
MS_init_combined_detach_request	ACCUMULATION	INTEGER	Number of MS-initiated requests for combined GPRS/IMSI detachment within the SGSN.	M117440563.S117455714	Sum	hustrafbh, Sum
MS_init_GPRS_detach_request	ACCUMULATION	INTEGER	Number of MS-initiated requests for	M117440563.S117455713	Sum	hustrafbh, Sum

			GPRS detachment within the SGSN.			
MS_init_IMSI_detach_request	ACCUMULATION	INTEGER	Number of MS-initiated requests for IMSI detachment within the SGSN.	M117440563.S117455715	Sum	hustrafbh, Sum
SGSN_init_detach_request	ACCUMULATION	INTEGER	Number of SGSN-initiated requests for GPRS detachment.	M117440563.S117455716	Sum	hustrafbh, Sum
Successful_of_SGSN_init_detach	ACCUMULATION	INTEGER	Number of SGSN-initiated GPRS detachment successes.	M117440563.S117455717	Sum	hustrafbh, Sum

7.30.3 Routing_Area.Huawei.GPRS.Gb_Mode_Inter_SGSN_RAU_with_RAI

Gb Mode Inter SGSN RAU with RAI measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
_%_Com_RAU_success	PERCENTAGE	FLOAT	Percentage of successful combined inter-SGSN RAU updates.	100 * {Com_RAU_success}/ {Com_RAU_request}	Average	Average, hustrafbh
_%_RAU_success	PERCENTAGE	FLOAT	Percentage of inter-SGSN RAU successes within this	100 * {RAU_success}/ {RAU_request}	Average	Average, hustrafbh

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			SGSN area.			
Com_RAU_reject_Ge_fail	ACCUMULATION	INTEGER	Number of inter-SGSN combined RA/ LA update failures due to Ge protocol error.	M117440565.S117455938	Sum	hustrafbh, Sum
Com_RAU_reject_GPRS_not_allow	ACCUMULATION	INTEGER	Number of inter-SGSN combined RA/ LA update failures due to GPRS service not allowed in this PLMN.	M117440565.S117455929	Sum	hustrafbh, Sum
Com_RAU_reject_GPRS_srvc_not_allow	ACCUMULATION	INTEGER	Number of inter-SGSN combined RA/ LA update failures due to illegal ME.	M117440565.S117455934	Sum	hustrafbh, Sum
Com_RAU_reject_Gr_fail	ACCUMULATION	INTEGER	Number of inter-SGSN combined RA/ LA update failures due to Gr protocol error.	M117440565.S117455937	Sum	hustrafbh, Sum
Com_RAU_reject_illegal_ME	ACCUMULATION	INTEGER	Number of inter-SGSN combined RA/ LA update failures due to illegal ME.	M117440565.S117455933	Sum	hustrafbh, Sum
Com_RAU_reject_illegal_MS	ACCUMULATION	INTEGER	Number of inter-SGSN combined RA/ LA update failures due to illegal mobile station.	M117440565.S117455928	Sum	hustrafbh, Sum

Com_RAU_reject_implicitly_detached	ACCUMULATION	INTEGER	Number of inter-SGSN combined RA/ LA update failures due to GPRS service not allowed.	M117440565.S117455935	Sum	hustrafbh, Sum
Com_RAU_reject_LA_not_allowed	ACCUMULATION	INTEGER	Number of inter-SGSN combined RA/ LA update failures due to location area not allowed.	M117440565.S117455930	Sum	hustrafbh, Sum
Com_RAU_reject_protocol_error	ACCUMULATION	INTEGER	Number of inter-SGSN combined RA/ LA update failures due to protocol error.	M117440565.S117455936	Sum	hustrafbh, Sum
Com_RAU_reject_roam_not_allowed	ACCUMULATION	INTEGER	Number of inter-SGSN combined RA/ LA update failures due to roaming not allowed in this Location area.	M117440565.S117455931	Sum	hustrafbh, Sum
Com_RAU_reject_times_no_suit_Cells	ACCUMULATION	INTEGER	Number of inter-SGSN combined RA/ LA update failures due to no suitable cells in LA.	M117440565.S117455932	Sum	hustrafbh, Sum
Com_RAU_request	ACCUMULATION	INTEGER	Number of inter-SGSN combined RA/	M117440565.S117455926	Sum	hustrafbh, Sum

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			LA update requests.			
Com_RAU_success	ACCUMULATION	INTEGER	Number of successful combined inter-SGSN RAU updates.	M117440565.S117455927	Sum	hustrafbh, Sum
Gb_inter_SG_RAU_fail_per_RA	ACCUMULATION	INTEGER	The number of inter-SGSN RAU fail withinThis SGSN area.	M117440565.S117455944	Sum	hustrafbh, Sum
InterSGRAU_out_rej_per_RA	ACCUMULATION	INTEGER	The number of times fail to out of the old SGSN in inter-SGSN RAU procedures.	M117440565.S117455946	Sum	hustrafbh, Sum
InterSGRAU_out_succ_per_RA	ACCUMULATION	INTEGER	The number of times out of the old SGSN in inter-SGSN RAU procedures.	M117440565.S117455945	Sum	hustrafbh, Sum
RAU_accept_LAU_reject_MSC_unreach	ACCUMULATION	INTEGER	Number of times RAU is accepted but LAU fails due to MSC temporarily unreachable in the process of combined inter-SGSN updates.	M117440565.S117455939	Sum	hustrafbh, Sum
RAU_accept_LAU_reject_VLR_reject	ACCUMULATION	INTEGER	Number of times RAU is accepted but LAU fails due to VLR reject in the process of combined inter-SGSN	M117440565.S117455940	Sum	hustrafbh, Sum

			updates.			
RAU_complete_msg_rec	ACCUMULATION	INTEGER	Number of times inter-SGSN RAU is completed .	M117440565.S117455941	Sum	hustrafbh, Sum
RAU_reject_Ge_fail	ACCUMULATION	INTEGER	Number of inter-SGSN RAU failures due to Ge protocol error.	M117440565.S117455925	Sum	hustrafbh, Sum
RAU_reject_GPRS_not_allowed_in_PLMN	ACCUMULATION	INTEGER	Number of inter-SGSN RAU failures due to GPRS service not allowed in this PLMN.	M117440565.S117455916	Sum	hustrafbh, Sum
RAU_reject_GPRS_service_not_allowed	ACCUMULATION	INTEGER	Number of inter-SGSN RAU failures due to GPRS service not allowed.	M117440565.S117455921	Sum	hustrafbh, Sum
RAU_reject_Gr_fail	ACCUMULATION	INTEGER	Number of inter-SGSN RAU failures due to Gr protocol error.	M117440565.S117455924	Sum	hustrafbh, Sum
RAU_reject_illegal_ME	ACCUMULATION	INTEGER	Number of inter-SGSN RAU failures due to illegal ME.	M117440565.S117455920	Sum	hustrafbh, Sum
RAU_reject_illegal_MS	ACCUMULATION	INTEGER	Number of inter-SGSN RAU failures due to illegal	M117440565.S117455915	Sum	hustrafbh, Sum

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			mobile station.			
RAU_reject_implicitly_detached	ACCUMULATION	INTEGER	Number of inter-SGSN RAU failures due to implicitly detached.	M117440565.S117455922	Sum	hustrafbh, Sum
RAU_reject_LA_not_allowed	ACCUMULATION	INTEGER	Number of inter-SGSN RAU failures due to location area not allowed.	M117440565.S117455917	Sum	hustrafbh, Sum
RAU_reject_no_suitable_Cells_in_LA	ACCUMULATION	INTEGER	Number of inter-SGSN RAU failures due to no suitable cells in LA.	M117440565.S117455919	Sum	hustrafbh, Sum
RAU_reject_protocol_error	ACCUMULATION	INTEGER	Number of inter-SGSN RAU failures due to protocol error.	M117440565.S117455923	Sum	hustrafbh, Sum
RAU_reject_roam_not_allowed	ACCUMULATION	INTEGER	Number of inter-SGSN RAU failures due to roaming not allowed in this Location area.	M117440565.S117455918	Sum	hustrafbh, Sum
RAU_request	ACCUMULATION	INTEGER	Number of inter-SGSN RAU requests within the SGSN area.	M117440565.S117455913	Sum	hustrafbh, Sum
RAU_success	ACCUMULATION	INTEGER	Number of inter-SGSN RAU successes within this SGSN area.	M117440565.S117455914	Sum	hustrafbh, Sum

7.30.4 Routing_Area.Huawei.GPRS.Gb_Mode_Intra_SGSN_RAU_with_RAI

Gb Mode Intra SGSN RAU with RAI measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
_%_Com_RAU_success	PERCENTAGE	FLOAT	Percentage of successful combined intra-SGSN RAU updates.	100 * {Com_RAU_success}/ {Com_RAU_request}	Average	Average, hustrafbh
_%_Periodic_RAU_success	PERCENTAGE	FLOAT	Percentage of Periodic RAU successes within this SGSN area.	100 * {Periodic_RAU_success}/ {Periodic_RAU_request}	Average	Average, hustrafbh
_%_RAU_success	PERCENTAGE	FLOAT	Percentage of intra-SGSN RAU successes within this SGSN area.	100 * {RAU_success}/ {RAU_request}	Average	Average, hustrafbh
Com_RAU_reject_Ge_fail	ACCUMULATION	INTEGER	Number of intra-SGSN combined RA/ LA update failures due to Ge protocol error.	M117440564.S117455832	Sum	hustrafbh, Sum
Com_RAU_reject_Gr_fail	ACCUMULATION	INTEGER	Number of intra-SGSN combined RA/ LA update failures due to Gr protocol error.	M117440564.S117455831	Sum	hustrafbh, Sum
Com_RAU_reje	ACCUMULA	INTEG	Number of	M117440564.S117	Sum	hustrafbh

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ct_illegal_MS	TION	ER	intra-SGSN combined RA/ LA update failures due to illegal mobile station.	455825		, Sum
Com_RAU_reject_implicitly_detached	ACCUMULATION	INTEGER	Number of intra-SGSN combined RA/ LA update failures due to implicitly detached.	M117440564.S117455829	Sum	hustrafbh, Sum
Com_RAU_reject_LA_not_allowed	ACCUMULATION	INTEGER	Number of intra-SGSN combined RA/ LA update failures due to location area not allowed.	M117440564.S117455826	Sum	hustrafbh, Sum
Com_RAU_reject_No_suit_Cells	ACCUMULATION	INTEGER	Number of intra-SGSN combined RA/ LA update failures due to no suitable cells in LA.	M117440564.S117455828	Sum	hustrafbh, Sum
Com_RAU_reject_protocol_error	ACCUMULATION	INTEGER	Number of intra-SGSN combined RA/ LA update failures due to protocol error.	M117440564.S117455830	Sum	hustrafbh, Sum
Com_RAU_reject_roam_not_allowed	ACCUMULATION	INTEGER	Number of intra-SGSN combined RA/ LA update failures due to roaming not allowed in this Location area.	M117440564.S117455827	Sum	hustrafbh, Sum
Com_RAU_req	ACCUMULA	INTEG	Number of	M117440564.S117	Sum	hustrafbh

uest	TION	ER	intra-SGSN combined RA/ LA update requests.	455823		, Sum
Com_RAU_success	ACCUMULATION	INTEGER	Number of successful combined intra-SGSN RAU updates.	M117440564.S117455824	Sum	hustrafbh, Sum
Periodic_RAU_request	ACCUMULATION	INTEGER	Number of Periodic RAU requests within the SGSN area.	M117440564.S117455836	Sum	hustrafbh, Sum
Periodic_RAU_success	ACCUMULATION	INTEGER	Number of Periodic RAU successes within this SGSN area.	M117440564.S117455837	Sum	hustrafbh, Sum
RAU_accept_LAU_reject_MSC_unreach	ACCUMULATION	INTEGER	Number of times RAU is accepted but LAU fails due to MSC temporarily unreachable in the process of combined intra-SGSN updates.	M117440564.S117455833	Sum	hustrafbh, Sum
RAU_accept_LAU_reject_VLR_reject	ACCUMULATION	INTEGER	Number of times RAU is accepted but LAU fails due to VLR reject in the process of combined intra-SGSN updates.	M117440564.S117455834	Sum	hustrafbh, Sum
RAU_complete	ACCUMULA	INTEG	Number of	M117440564.S117	Sum	hustrafbh

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_message_rec	TION	ER	times intra-SGSN RAU is completed .	455835		, Sum
RAU_reject_Ge_fail	ACCUMULATION	INTEGER	Number of intra-SGSN RAU failures due to Ge protocol error.	M117440564.S117455822	Sum	hustrafbh, Sum
RAU_reject_Gr_fail	ACCUMULATION	INTEGER	Number of intra-SGSN RAU failures due to Gr protocol error.	M117440564.S117455821	Sum	hustrafbh, Sum
RAU_reject_illegal_MS	ACCUMULATION	INTEGER	Number of intra-SGSN RAU failures due to illegal mobile station.	M117440564.S117455815	Sum	hustrafbh, Sum
RAU_reject_implicitly_detached	ACCUMULATION	INTEGER	Number of intra-SGSN RAU failures due to implicitly detached.	M117440564.S117455819	Sum	hustrafbh, Sum
RAU_reject_LA_not_allowed	ACCUMULATION	INTEGER	Number of intra-SGSN RAU failures due to location area not allowed.	M117440564.S117455816	Sum	hustrafbh, Sum
RAU_reject_no_suitable_Cells_in_LA	ACCUMULATION	INTEGER	Number of intra-SGSN RAU failures due to no suitable cells in LA.	M117440564.S117455818	Sum	hustrafbh, Sum
RAU_reject_protocol_error	ACCUMULATION	INTEGER	Number of intra-SGSN RAU failures due to protocol error.	M117440564.S117455820	Sum	hustrafbh, Sum

RAU_reject_roam_not_allowed	ACCUMULATION	INTEGER	Number of intra-SGSN RAU failures due to roaming not allowed in this Location area.	M117440564.S117455817	Sum	hustrafbh, Sum
RAU_request	ACCUMULATION	INTEGER	Number of intra-SGSN RAU requests within the SGSN area.	M117440564.S117455813	Sum	hustrafbh, Sum
RAU_success	ACCUMULATION	INTEGER	Number of intra-SGSN RAU successes within this SGSN area.	M117440564.S117455814	Sum	hustrafbh, Sum

7.30.5 Routing_Area.Huawei.GPRS.Gb_Mode_Paging_with_RAI

Gb Mode Paging with RAI measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
Pkt_paging_fail	ACCUMULATION	INTEGER	Number of failed GPRS packet pagings within a specified RA such as paging timeout.	M117440566.S117456014	Sum	hustrafbh, Sum
Pkt_paging_request	ACCUMULATION	INTEGER	Number of attempts of GPRS packet paging within a specified RA, which includes the initial	M117440566.S117456013	Sum	hustrafbh, Sum

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			paging and re-paging process.			

7.30.6 Routing_Area.Huawei.GPRS.Gb_Mode_Radio_Resource_with_RAI

Gb Mode Radio Resource with RAI measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
Att_avg_SIM_user_per_RA	INTENSITY	FLOAT	Obsolete from CN-SGSN/V900R010.C01SPC022:Average number of Gb mode attached SIM user per RA	M117440567.S117456116	Average	Average, hustrafbh, Maximum, Minimum, Sum
Att_avg_USIM_user_per_RA	INTENSITY	FLOAT	Obsolete from CN-SGSN/V900R010.C01SPC022:Average number of Gb mode attached USIM user per RA	M117440567.S117456117	Average	Average, hustrafbh, Maximum, Minimum, Sum
Attached_Max_user	INTENSITY	INTEGER	Maximum 2G subscribers that can be attached in a routing area.	M117440567.S117456114	Average	Average, hustrafbh, Maximum, Minimum, Sum
Attached_user	INTENSITY	INTEGER	Number of attached mobile users in specific RA.	M117440567.S117456113	Average	Average, hustrafbh, Maximum, Minimum, Sum
Gb_mode_attached_Average_us	INTENSITY	INTEGER	Mean 2G subscribers that	M117440567.S117456115	Average	Average, hustrafbh

er_number_per_RA			can be attached in a routing area.			, Maximum, Minimum, Sum

7.30.7 Routing_Area.Huawei.GPRS.Gb_Mode_SM_Resource_with_RAI

Gb Mode SM Resource with RAI measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
Gb_mode_PDP_number_with_specific_RA	INTENSITY	INTEGER	Number of PDP contexts of Gb mode in active status.	M117440648.S117464213	Average	Average, hustrafbh, Maximum, Minimum, Sum

7.30.8 Routing_Area.Huawei.GPRS.Inter_System_Switch_with_RAI

Inter System Switch with RAI measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
_%_GSM_to_UMTS_change_success	PERCENTAGE	FLOAT	Percentage of successful 2G-3G system changes within SGSN.	100 * {GSM_to_UMTS_change_success}/ {GSM_to_UMTS_change_request}	Average	Average, hustrafbh
_%_UMTS_to_GSM_change_success	PERCENTAGE	FLOAT	Percentage of successful 3G-2G changes within SGSN.	100 * {UMTS_to_GSM_change_success}/ {UMTS_to_GSM_change_request}	Average	Average, hustrafbh

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GSM_to_UMTS_change_request	ACCUMULATION	INTEGER	Number of received requests for 2G-3G change within SGSN.	M117440588.S117458213	Sum	hustrafbh, Sum
GSM_to_UMTS_change_success	ACCUMULATION	INTEGER	Number of successful 2G-3G system changes within SGSN.	M117440588.S117458214	Sum	hustrafbh, Sum
UMTS_to_GSM_change_request	ACCUMULATION	INTEGER	Number of requests for received 3G-2G system change within SGSN.	M117440588.S117458215	Sum	hustrafbh, Sum
UMTS_to_GSM_change_success	ACCUMULATION	INTEGER	Number of successful 3G-2G changes within SGSN.	M117440588.S117458216	Sum	hustrafbh, Sum

7.30.9 Routing_Area.Huawei.GPRS.Iu_Mode_Attach_with_RAI

Iu Mode Attach with RAI measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
_%_Com_attach_accept	PERCENTAGE	FLOAT	Percentage of GPRS/IMSI attachment successes within the SGSN.	100 * {Com_attach_accept}/ {Com_attach_request}	Average	Average, hustrafbh
_%_GPRS_attach_success	PERCENTAGE	FLOAT	Percentage of GPRS attachment successes within the SGSN.	100 * {GPRS_attach_success}/ {GPRS_attach_request}	Average	Average, hustrafbh
Att_rej_roamNotAllow_LA_per_RA	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R0	M117440583.S117457749	Sum	hustrafbh, Sum

			10.C01SPC022 :Number of rejected Iu mode GPRS attach (roaming not allowed in LA) per RA			
Attach_reject_Ge_fail	ACCUMULATION	INTEGER	Number of GPRS attachment failures within SGSN due to Ge protocol error.	M117440583.S117457723	Sum	hustrafbh, Sum
Attach_reject_GPRS_srvc_not_allowed	ACCUMULATION	INTEGER	Number of GPRS attachment failures within SGSN due to GPRS services not allowed.	M117440583.S117457720	Sum	hustrafbh, Sum
Attach_reject_Gr_fail	ACCUMULATION	INTEGER	Number of GPRS attachment failures within SGSN due to Gr protocol error.	M117440583.S117457722	Sum	hustrafbh, Sum
Attach_reject_LA_not_allowed	ACCUMULATION	INTEGER	Number of GPRS attachment rejects due to Location Area not allowed.	M117440583.S117457717	Sum	hustrafbh, Sum
Attach_reject_protocol_error	ACCUMULATION	INTEGER	Number of GPRS attachment	M117440583.S117457721	Sum	hustrafbh, Sum

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			failures within SGSN due to protocol error.			
Attach_reject_times_illegal_ME	ACCUMULATION	INTEGER	Number of GPRS attachment failures within SGSN due to illegal ME.	M117440583.S117457719	Sum	hustrafbh, Sum
Attrej_IMSI_roamNotAllowLA_RA	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022 :Number of rejected Iu mode IMSI-attached GPRS attach (roaming not allowed in LA)per RA	M117440583.S117457751	Sum	hustrafbh, Sum
Com_attach_accept	ACCUMULATION	INTEGER	Number of GPRS/IMSI attachment successes within the SGSN.	M117440583.S117457725	Sum	hustrafbh, Sum
Com_attach_rej_Ge_fail	ACCUMULATION	INTEGER	Number of combined GPRS/IMSI attachment failures within SGSN due to protocol error.	M117440583.S117457736	Sum	hustrafbh, Sum
Com_attach_rej_Gprs_not_allow	ACCUMULATION	INTEGER	Number of combined GPRS/IMSI attachment rejects due to GPRS service not allowed in this PLMN.	M117440583.S117457727	Sum	hustrafbh, Sum

Com_attach_rej_GPRS_srvc_not_allow	ACCUMULATION	INTEGER	The GPRS attachment succeeds while the IMSI attachment fails (rejected by VLR).	M117440583.S117457733	Sum	hustrafbh, Sum
Com_attach_rej_Gr_fail	ACCUMULATION	INTEGER	Number of combined GPRS/IMSI attachment failures within SGSN due to GPRS services not allowed.	M117440583.S117457735	Sum	hustrafbh, Sum
Com_attach_rej_illegal_ME	ACCUMULATION	INTEGER	Number of GPRS attachment failures within SGSN due to illegal ME.	M117440583.S117457730	Sum	hustrafbh, Sum
Com_attach_rej_illegal_MS	ACCUMULATION	INTEGER	Number of combined GPRS/IMSI attachment rejects due to illegal mobile station.	M117440583.S117457726	Sum	hustrafbh, Sum
Com_attach_rej_LA_not_allowed	ACCUMULATION	INTEGER	Number of combined GPRS/IMSI attachment rejects due to Location Area not allowed.	M117440583.S117457728	Sum	hustrafbh, Sum
Com_attach_rej_no_suit_cell	ACCUMULATION	INTEGER	Number of combined GPRS/IMSI	M117440583.S117457729	Sum	hustrafbh, Sum

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			attachment failures within SGSN due to no suitable cell in LA.			
Com_attach_rej_protocol_error	ACCUMULATION	INTEGER	The number of times GPRS attachment succeeds but IMSI attachment fails (MSC presently unreachable).	M117440583.S117457734	Sum	hustrafbh, Sum
Com_attach_request	ACCUMULATION	INTEGER	Number of combined GPRS/IMSI attachment requests within the SGSN.	M117440583.S117457724	Sum	hustrafbh, Sum
ComAttrej_roamNotAllowLA_perRA	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022 :Number of rejected Iu mode combined attach (roaming not allowed in LA)per RA	M117440583.S117457750	Sum	hustrafbh, Sum
GPRS_attach_aft_IMSI_att_request	ACCUMULATION	INTEGER	Number of IMSI-attached GPRS attachment requests within the SGSN.	M117440583.S117457737	Sum	hustrafbh, Sum
GPRS_attach_fail_MSC_unreach	ACCUMULATION	INTEGER	Number of combined GPRS/IMSI attachment failures within	M117440583.S117457732	Sum	hustrafbh, Sum

			SGSN due to Ge protocol error.			
GPRS_attach_fail_VLR_reject	ACCUMULATION	INTEGER	Number of combined GPRS/IMSI attachment failures within SGSN due to Gr protocol error.	M117440583.S117457731	Sum	hustrafbh, Sum
GPRS_attach_reject_Gprs_not_allowed	ACCUMULATION	INTEGER	Number of GPRS attachment rejects due to GPRS service not allowed in this PLMN.	M117440583.S117457716	Sum	hustrafbh, Sum
GPRS_attach_reject_no_suit_cell	ACCUMULATION	INTEGER	Number of GPRS attachment failures within SGSN due to no suitable cell in LA.	M117440583.S117457718	Sum	hustrafbh, Sum
GPRS_attach_reject_times_illegal_MS	ACCUMULATION	INTEGER	Number of GPRS attachment rejects due to illegal mobile station.	M117440583.S117457715	Sum	hustrafbh, Sum
GPRS_attach_request	ACCUMULATION	INTEGER	Number of GPRS attachment requests within the SGSN.	M117440583.S117457713	Sum	hustrafbh, Sum
GPRS_attach_suc_after_IMSI_att	ACCUMULATION	INTEGER	Number of IMSI-attached	M117440583.S117457738	Sum	hustrafbh, Sum

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			GPRS attachment successes within the SGSN.			
GPRS_attach_success	ACCUMULATION	INTEGER	Number of GPRS attachment successes within the SGSN.	M117440583.S117457714	Sum	hustrafbh, Sum
IMSI_att_GPRS_att_rej_LA_not_allow	ACCUMULATION	INTEGER	Number of IMSI-attached GPRS attachment rejects due to Location Area not allowed.	M117440583.S117457741	Sum	hustrafbh, Sum
IMSI_att_GPRS_att_rej_protocol_err	ACCUMULATION	INTEGER	Number of IMSI-attached GPRS attachment failures within SGSN due to protocol error.	M117440583.S117457745	Sum	hustrafbh, Sum
IMSI_att_GPRS_att_reject_Ge_fail	ACCUMULATION	INTEGER	Number of IMSI-attached GPRS attachment failures within SGSN due to Ge protocol error.	M117440583.S117457747	Sum	hustrafbh, Sum
IMSI_att_GPRS_att_reject_Gr_fail	ACCUMULATION	INTEGER	Number of IMSI-attached GPRS attachment failures within SGSN due to Gr protocol error.	M117440583.S117457746	Sum	hustrafbh, Sum
IMSI_att_reject_	ACCUMULA	INTEG	Number of	M117440583.S11	Sum	hustrafbh

Gprs_not_allowed	TION	ER	IMSI-attached GPRS attachment rejects due to GPRS service not allowed in this PLMN.	7457740		, Sum
IMSI_att_reject_GPRS_srvc_not_allow	ACCUMULATION	INTEGER	Number of IMSI-attached GPRS attachment failures within SGSN due to GPRS services not allowed.	M117440583.S117457744	Sum	hustrafbh, Sum
IMSI_att_reject_no_suit_cell	ACCUMULATION	INTEGER	Number of IMSI-attached GPRS attachment failures within SGSN due to no suitable cell in LA.	M117440583.S117457742	Sum	hustrafbh, Sum
IMSI_attached_GPRS_att_rej_ill_ME	ACCUMULATION	INTEGER	Number of IMSI-attached GPRS attachment failures within SGSN due to illegal ME.	M117440583.S117457743	Sum	hustrafbh, Sum
IMSI_attached_GPRS_att_rej_ill_MS	ACCUMULATION	INTEGER	Number of IMSI-attached GPRS attachment rejects due to illegal mobile station.	M117440583.S117457739	Sum	hustrafbh, Sum
Iu_mode_GPRS_	ACCUMULA	INTEG	Number of	M117440583.S11	Sum	hustrafbh

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Att_fail_per_RA	TION	ER	GPRS attachment rejects within the SGSN.	7457748		, Sum

7.30.10Routing_Area.Huawei.GPRS.Iu_Mode_Detach_with_RAI

Iu Mode Detach with RAI measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
_%_SGSN_init_detach_success	PERCENTAGE	FLOAT	Percentage of SGSN-initiated GPRS detachment successes.	100 * {SGSN_init_detach_success}/ {SGSN_init_detach_request}	Average	Average, hustrafbh
Detach_accept_message_sent	ACCUMULATION	INTEGER	Number of "detach accept" messages sent to MS.	M117440584.S117457819	Sum	hustrafbh, Sum
HLR_init_detach_request	ACCUMULATION	INTEGER	Number of detachment requests due to subscriber deletion by HLR.	M117440584.S117457818	Sum	hustrafbh, Sum
MS_init_com_detach_request	ACCUMULATION	INTEGER	Number of MS-initiated requests for combined GPRS/IMSI detachment within the SGSN.	M117440584.S117457814	Sum	hustrafbh, Sum
MS_init_GPRS_detach_request	ACCUMULATION	INTEGER	Number of MS-initiated requests for GPRS detachment within the SGSN.	M117440584.S117457813	Sum	hustrafbh, Sum

MS_init_IMSI_detach_request	ACCUMULATION	INTEGER	Number of MS-initiated requests for IMSI detachment within the SGSN.	M117440584.S117457815	Sum	hustrafbh, Sum
SGSN_init_detach_request	ACCUMULATION	INTEGER	Number of SGSN-initiated requests for GPRS detachment.	M117440584.S117457816	Sum	hustrafbh, Sum
SGSN_init_detach_success	ACCUMULATION	INTEGER	Number of SGSN-initiated GPRS detachment successes.	M117440584.S117457817	Sum	hustrafbh, Sum

7.30.11Routing_Area.Huawei.GPRS.Iu_Mode_Inter_SGSN_RAU_with_RAI

Iu Mode Inter SGSN RAU with RAI measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
_%_Com_RAU_success	PERCENTAGE	FLOAT	Number of successful combined inter-SGSN RAU updates.	100 * {Com_RAU_success}/ {Com_RAU_request}	Average	Average, hustrafbh
_%_RAU_success	PERCENTAGE	FLOAT	Percentage of inter-SGSN RAU successes within this SGSN area.	100 * {RAU_success}/ {RAU_request}	Average	Average, hustrafbh
Com_RAU_reject_Ge_fail	ACCUMULATION	INTEGER	Number of inter-SGSN combined RA/	M117440586.S117458036	Sum	hustrafbh, Sum

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			LA update failures due to Ge protocol error.			
Com_RAU_reject_Gprs_not_allowed	ACCUMULATION	INTEGER	Number of inter-SGSN combined RA/ LA update failures due to GPRS service is not allowed in this PLMN.	M117440586.S117458028	Sum	hustrafbh, Sum
Com_RAU_reject_GPRS_srvc_not_allow	ACCUMULATION	INTEGER	Number of inter-SGSN combined RA/ LA update failures due to GPRS service not allowed.	M117440586.S117458032	Sum	hustrafbh, Sum
Com_RAU_reject_Gr_fail	ACCUMULATION	INTEGER	Number of inter-SGSN combined RA/ LA update failures due to Gr protocol error.	M117440586.S117458035	Sum	hustrafbh, Sum
Com_RAU_reject_illegal_ME	ACCUMULATION	INTEGER	Number of inter-SGSN combined RA/ LA update failures due to illegal ME.	M117440586.S117458031	Sum	hustrafbh, Sum
Com_RAU_reject_illegal_MS	ACCUMULATION	INTEGER	Number of inter-SGSN combined RA/ LA update failures due to illegal mobile station.	M117440586.S117458027	Sum	hustrafbh, Sum
Com_RAU_reject_implicitly_detached	ACCUMULATION	INTEGER	Number of inter-SGSN combined RA/	M117440586.S117458033	Sum	hustrafbh, Sum

			LA update failures due to implicitly detached.			
Com_RAU_reject_LA_not_allowed	ACCUMULATION	INTEGER	Number of inter-SGSN combined RA/ LA update failures due to location area not allowed.	M117440586.S117458029	Sum	hustrafbh, Sum
Com_RAU_reject_no_suit_cell	ACCUMULATION	INTEGER	Number of inter-SGSN combined RA/ LA update failures due to no suitable cell in LA.	M117440586.S117458030	Sum	hustrafbh, Sum
Com_RAU_reject_protocol_error	ACCUMULATION	INTEGER	Number of inter-SGSN combined RA/ LA update failures due to protocol error.	M117440586.S117458034	Sum	hustrafbh, Sum
Com_RAU_request	ACCUMULATION	INTEGER	Number of inter-SGSN combined RA/ LA update requests.	M117440586.S117458025	Sum	hustrafbh, Sum
Com_RAU_success	ACCUMULATION	INTEGER	Number of successful combined inter-SGSN RAU updates.	M117440586.S117458026	Sum	hustrafbh, Sum
InterRAU_rej_roamNotAllowLA_RA	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022	M117440586.S117458045	Sum	hustrafbh, Sum

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			:Number of rejected Iu mode inter-SGSN RAU (roaming not allowed in LA) per RA			
InterSGRAU_fail_per_RA	ACCUMULATION	INTEGER	Number of inter-SGSN RAU fail within this SGSN area.	M117440586.S117458042	Sum	hustrafbh, Sum
InterSGRAU_out_fail_per_RA	ACCUMULATION	INTEGER	Number of outgoing Iu mode inter-SGSN RAU failures per RA	M117440586.S117458044	Sum	hustrafbh, Sum
InterSGRAU_out_succ_per_RA	ACCUMULATION	INTEGER	Number of successful outgoing Iu mode inter-SGSN RAU per RA	M117440586.S117458043	Sum	hustrafbh, Sum
ItrComRAUrej_roamNotAllowLA_RA	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022 :Number of rejected Iu mode inter-SGSN Com-RAU (roaming not allowed in LA) per RA	M117440586.S117458046	Sum	hustrafbh, Sum
RAU_accept_LAU_reject_MSC_unreach	ACCUMULATION	INTEGER	Number of times RAU is accepted but LAU fails due to MSC temporarily unreachable in the process of combined	M117440586.S117458037	Sum	hustrafbh, Sum

			inter-SGSN updates.			
RAU_accept_LAU_reject_VLR_reject	ACCUMULATION	INTEGER	Number of times RAU is accepted but LAU fails due to VLR reject in the process of combined inter-SGSN updates.	M117440586.S117458038	Sum	hustrafbh, Sum
RAU_complete_msg_rec	ACCUMULATION	INTEGER	Number of times inter-SGSN RAU is completed .	M117440586.S117458039	Sum	hustrafbh, Sum
RAU_reject_Ge_fail	ACCUMULATION	INTEGER	Number of inter-SGSN RAU failures due to Ge protocol error.	M117440586.S117458024	Sum	hustrafbh, Sum
RAU_reject_Gprs_not_allowed_in_PLMN	ACCUMULATION	INTEGER	Number of inter-SGSN RAU failures due to GPRS service is not allowed in this PLMN.	M117440586.S117458016	Sum	hustrafbh, Sum
RAU_reject_GPRS_service_not_allowed	ACCUMULATION	INTEGER	Number of inter-SGSN RAU failures due to GPRS service not allowed.	M117440586.S117458020	Sum	hustrafbh, Sum
RAU_reject_Gr_fail	ACCUMULATION	INTEGER	Number of inter-SGSN RAU failures due to Gr protocol error.	M117440586.S117458023	Sum	hustrafbh, Sum

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RAU_reject_illegal_ME	ACCUMULATION	INTEGER	Number of inter-SGSN RAU failures due to illegal ME.	M117440586.S117458019	Sum	hustrafbh, Sum
RAU_reject_illegal_MS	ACCUMULATION	INTEGER	Number of inter-SGSN RAU failures due to illegal mobile station.	M117440586.S117458015	Sum	hustrafbh, Sum
RAU_reject_implicitly_detached	ACCUMULATION	INTEGER	Number of inter-SGSN RAU failures due to implicitly detached.	M117440586.S117458021	Sum	hustrafbh, Sum
RAU_reject_LA_not_allowed	ACCUMULATION	INTEGER	Number of inter-SGSN RAU failures due to location area not allowed.	M117440586.S117458017	Sum	hustrafbh, Sum
RAU_reject_no_suitable_cell_in_LA	ACCUMULATION	INTEGER	Number of inter-SGSN RAU failures due to no suitable cell in LA.	M117440586.S117458018	Sum	hustrafbh, Sum
RAU_reject_protocol_error	ACCUMULATION	INTEGER	Number of inter-SGSN RAU failures due to protocol error.	M117440586.S117458022	Sum	hustrafbh, Sum
RAU_request	ACCUMULATION	INTEGER	Number of inter-SGSN RAU requests within the SGSN area.	M117440586.S117458013	Sum	hustrafbh, Sum
RAU_success	ACCUMULATION	INTEGER	Number of inter-SGSN RAU successes	M117440586.S117458014	Sum	hustrafbh, Sum

			within this SGSN area.			

7.30.12Routing_Area.Huawei.GPRS.Iu_Mode_Intra_SGSN_RAU_with_RAI

Iu Mode Intra SGSN RAU with RAI measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
_%_COM_RAU_success	PERCENTAGE	FLOAT	Percentage of successful combined intra-SGSN RAU updates.	100 * {COM_RAU_success}/ {COM_RAU_request}	Average	Average, hustrafbh
_%_Periodic_RAU_success	PERCENTAGE	FLOAT	Percentage of Periodic RAU successes within this SGSN area.	100 * {Periodic_RAU_success}/ {Periodic_RAU_request}	Average	Average, hustrafbh
_%_RAU_success	PERCENTAGE	FLOAT	Percentage of intra-SGSN RAU successes within this SGSN area.	100 * {RAU_success}/ {RAU_request}	Average	Average, hustrafbh
Com_RAU_reject_Ge_fail	ACCUMULATION	INTEGER	Number of intra-SGSN combined RA/ LA update failures due to Ge protocol error.	M117440585.S117457930	Sum	hustrafbh, Sum
Com_RAU_reject_Gr_fail	ACCUMULATION	INTEGER	Number of intra-SGSN combined RA/ LA update failures due to Gr protocol	M117440585.S117457929	Sum	hustrafbh, Sum

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			error.			
COM_RAU_reject_illegal_MS	ACCUMULATION	INTEGER	Number of intra-SGSN combined RA/ LA update failures due to illegal mobile station.	M117440585.S117457924	Sum	hustrafbh, Sum
Com_RAU_reject_implicitly_detached	ACCUMULATION	INTEGER	Number of intra-SGSN combined RA/ LA update failures due to implicitly detached.	M117440585.S117457927	Sum	hustrafbh, Sum
Com_RAU_reject_LA_not_allowed	ACCUMULATION	INTEGER	Number of intra-SGSN combined RA/ LA update failures due to location area not allowed.	M117440585.S117457925	Sum	hustrafbh, Sum
Com_RAU_reject_no_suit_cell	ACCUMULATION	INTEGER	Number of intra-SGSN combined RA/ LA update failures due to no suitable cell in LA.	M117440585.S117457926	Sum	hustrafbh, Sum
Com_RAU_reject_protocol_error	ACCUMULATION	INTEGER	Number of intra-SGSN combined RA/ LA update failures due to protocol error.	M117440585.S117457928	Sum	hustrafbh, Sum
COM_RAU_request	ACCUMULATION	INTEGER	Number of intra-SGSN combined RA/ LA update requests.	M117440585.S117457922	Sum	hustrafbh, Sum
COM_RAU_succ	ACCUMULA	INTEG	Number of	M117440585.S11	Sum	hustrafbh

ess	TION	ER	successful combined intra-SGSN RAU updates.	7457923		, Sum
IntraRAUrej_roamNotAllowLA_RA	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022 :Number of rejected Iu mode intra-SGSN RAU (roaming not allowed in LA) per RA	M117440585.S117457936	Sum	hustrafbh, Sum
ItaComRAUrej_roamNotAllowLA_RA	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022 :Number of rejected Iu mode intra-SGSN COM-RAU (roaming not allowed in LA) per RA	M117440585.S117457937	Sum	hustrafbh, Sum
Periodic_RAU_request	ACCUMULATION	INTEGER	Number of Periodic RAU requests within the SGSN area.	M117440585.S117457934	Sum	hustrafbh, Sum
Periodic_RAU_success	ACCUMULATION	INTEGER	Number of Periodic RAU successes within this SGSN area.	M117440585.S117457935	Sum	hustrafbh, Sum
RAU_accept_LAU_reject_MSC_unreach	ACCUMULATION	INTEGER	Number of times RAU is accepted but	M117440585.S117457931	Sum	hustrafbh, Sum

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			LAU fails due to MSC temporarily unreachable in the process of combined intra-SGSN updates.			
RAU_accept_LAU_reject_VLR_reject	ACCUMULATION	INTEGER	Number of times RAU is accepted but LAU fails due to VLR reject in the process of combined intra-SGSN updates.	M117440585.S117457932	Sum	hustrafbh, Sum
RAU_complete_rec	ACCUMULATION	INTEGER	Number of times intra-SGSN RAU is completed .	M117440585.S117457933	Sum	hustrafbh, Sum
RAU_reject_Ge_fail	ACCUMULATION	INTEGER	Number of intra-SGSN RAU failures due to Ge protocol error.	M117440585.S117457921	Sum	hustrafbh, Sum
RAU_reject_Gr_fail	ACCUMULATION	INTEGER	Number of intra-SGSN RAU failures due to Gr protocol error.	M117440585.S117457920	Sum	hustrafbh, Sum
RAU_reject_illegal_MS	ACCUMULATION	INTEGER	Number of intra-SGSN RAU failures due to illegal mobile station.	M117440585.S117457915	Sum	hustrafbh, Sum
RAU_reject_implicitly_detached	ACCUMULATION	INTEGER	Number of intra-SGSN RAU failures due to implicitly detached.	M117440585.S117457918	Sum	hustrafbh, Sum

RAU_reject_LA_not_allowed	ACCUMULATION	INTEGER	Number of intra-SGSN RAU failures due to location area not allowed.	M117440585.S117457916	Sum	hustrafbh, Sum
RAU_reject_no_suitable_cell_in_LA	ACCUMULATION	INTEGER	Number of intra-SGSN RAU failures due to no suitable cell in LA.	M117440585.S117457917	Sum	hustrafbh, Sum
RAU_reject_protocol_error	ACCUMULATION	INTEGER	Number of intra-SGSN RAU failures due to protocol error.	M117440585.S117457919	Sum	hustrafbh, Sum
RAU_request	ACCUMULATION	INTEGER	Number of intra-SGSN RAU requests within the SGSN area.	M117440585.S117457913	Sum	hustrafbh, Sum
RAU_success	ACCUMULATION	INTEGER	Number of intra-SGSN RAU successes within this SGSN area.	M117440585.S117457914	Sum	hustrafbh, Sum

7.30.13Routing_Area.Huawei.GPRS.Iu_Mode_Paging_with_RAI

Iu Mode Paging with RAI measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
_%_Pkt_paging_fail	PERCENTAGE	FLOAT	Percentage of failed packet pagings in a	100 * {Pkt_paging_fail}/{Pkt_paging_reque	Average	Average, hustrafbh

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			specified routing area.	st}		
Pkt_paging_fail	ACCUMULATION	INTEGER	Number of failed packet pagings in a specified routing area.	M117440589.S117458314	Sum	hustrafbh, Sum
Pkt_paging_request	ACCUMULATION	INTEGER	Number of delivered packet paging requests in a specified routing area, not including re-transmitted messages.	M117440589.S117458313	Sum	hustrafbh, Sum

7.30.14Routing_Area.Huawei.GPRS.Iu_Mode_Radio_Resource_with_RAI

Iu Mode Radio Resource with RAI measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
Attached_Max_user	INTENSITY	INTEGER	Maximum 3G subscribers in the specified routing area.	M117440590.S117458414	Constant	Average, hustrafbh, Maximum, Minimum, Sum
Attached_user	ACCUMULATION	INTEGER	Number of attached mobile users in specific RA.	M117440590.S117458413	Sum	hustrafbh, Sum
Atted_avg_SIM_user_number_RA	INTENSITY	FLOAT	Obsolete from CN-SGSN/V900R010.C01SPC022: Average number of Iu mode attached	M117440590.S117458416	Average	Average, hustrafbh, Maximum, Minimum, Sum

			SIM user per RA			
Atted_avg_USIM_user_number_RA	INTENSITY	FLOAT	Obsolete from CN-SGSN/V900R010.C01SPC022: Average number of Iu mode attached USIM user per RA	M117440590.S117458417	Average	Average, hustrafbh, Maximum, Minimum, Sum
Iu_mode_attached_Average_user_number_per_RA	INTENSITY	INTEGER	Mean 3G subscribers in the specified routing area.	M117440590.S117458415	Average	Average, hustrafbh, Maximum, Minimum, Sum

7.30.15Routing_Area.Huawei.GPRS.Iu_Mode_Service_Request_with_RAI

Iu Mode Service Request with RAI measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
_%_Service_Request_signal_cause_suc	PERCENTAGE	FLOAT	Percentage of subscriber successes in initiating service requests of the signaling type.	100 * {Service_Request_signal_cause_suc}/ {Service_Request_signalling_cause}	Average	Average, hustrafbh
_%_Service_Request_suc	PERCENTAGE	FLOAT	Percentage of successful service requests initiated by the subscriber.	100 * {Service_Request_suc}/ {Service_Request}	Average	Average, hustrafbh

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Iu_service_request_data	ACCUMULATION	INTEGER	Iu mode Service Request data caused success times per RA	M117440587.S117458118	Sum	hustrafbh, Sum
Service_reject_msg_sent_by_SGSN	ACCUMULATION	INTEGER	Number of rejected service requests initiated by the subscriber.	M117440587.S117458119	Sum	hustrafbh, Sum
Service_Request_Data_cause	ACCUMULATION	INTEGER	Number of attempts by the subscriber in initiating service requests of the data type.	M117440587.S117458117	Sum	hustrafbh, Sum
Service_Request_signal_cause_suc	ACCUMULATION	INTEGER	Number of subscriber successes in initiating service requests of the signaling type.	M117440587.S117458116	Sum	hustrafbh, Sum
Service_Request_signalling_cause	ACCUMULATION	INTEGER	Number of attempts by the subscriber in initiating service requests of the signaling type.	M117440587.S117458115	Sum	hustrafbh, Sum
Service_Request_suc	ACCUMULATION	INTEGER	Number of successful service requests initiated by the subscriber.	M117440587.S117458114	Sum	hustrafbh, Sum
Service_Request	ACCUMULATION	INTEGER	Number of attempts by the subscriber in initiating service requests.	M117440587.S117458113	Sum	hustrafbh, Sum

7.30.16Routing_Area.Huawei.GPRS.Iu_Mode_SM_Resource_with_RAI

Iu Mode SM Resource with RAI measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
PDP_number_with_specific_RA	INTENSITY	INTEGER	The number of PDPs of Iu mode in active status.	M117440649.S117464313	Average	Average, hustrafbh, Maximum, Minimum, Sum

7.30.17Routing_Area.Huawei.GPRS.Specific_Routing_Area_SM_2G

Specific Routing Area SM 2G measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
_%_all_MS_init_PDP_succ	PERCENTAGE	FLOAT	All MS initiated PDP context activation success ratio in specific RAI	100 * {_2G_MS_total_init_PDP_act_succ}/{_2G_MS_totally_init_PDP_act}	Average	hustrafbh
_%_MS_init_PDP_act_succ	PERCENTAGE	FLOAT	MS initiated PDP context activation success ratio in specific RAI	100 * {MS_init_PDP_context_act_success}/{MS_init_PDP_context_act}	Average	hustrafbh
_%_MS_init_Sec_PDP_succ	PERCENTAGE	FLOAT	MS initiated Secondary PDP context activation success ratio in specific RAI	100 * {_2G_MS_init_PDP_sec_act_succ}/{_2G_MS_init_PDP_sec_context_act}	Average	hustrafbh

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_2G_GGSN_init_PDP_context_deact	ACCUMULATION	INTEGER	Number of GGSN-initiated PDP context deactivation attempts in a specified RAI.	M117440671.S117466536	Sum	hustrafbh, Sum
_2G_GGSN_init_PDP_deact_fail	ACCUMULATION	INTEGER	Number of failed GGSN-initiated PDP context deactivations in a specified RAI.	M117440671.S117466538	Sum	hustrafbh, Sum
_2G_GGSN_init_PDP_deact_succ	ACCUMULATION	INTEGER	Number of successful GGSN-initiated PDP context deactivations in a specified RAI	M117440671.S117466537	Sum	hustrafbh, Sum
_2G_Max_act_PDP_context	INTENSITY	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Maximum number of 2G active PDP context	M117440671.S117466544	Average	Average, hustrafbh, Maximum, Minimum, Sum
_2G_Mean_act_PDP_context	INTENSITY	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Mean number of 2G active PDP context	M117440671.S117466543	Average	Average, hustrafbh, Maximum, Minimum, Sum
_2G_MS_init_PDP_context_deact	ACCUMULATION	INTEGER	Number of MS-initiated PDP context deactivation attempts in a specified RAI.	M117440671.S117466530	Sum	hustrafbh, Sum
_2G_MS_init_PDP_deact_fail	ACCUMULATION	INTEGER	Number of failed MS-initiated PDP	M117440671.S117466532	Sum	hustrafbh, Sum

			context deactivations in a specified RAI.			
_2G_MS_init_PDP_deact_succ	ACCUMULATION	INTEGER	Number of successful MS-initiated PDP context deactivations in a specified RAI.	M117440671.S117466531	Sum	hustrafbh, Sum
_2G_MS_init_PDP_sec_act_fail	ACCUMULATION	INTEGER	Number of failed MS-initiated PDP context second activations in a specified RAI.	M117440671.S117466523	Sum	hustrafbh, Sum
_2G_MS_init_PDP_sec_act_succ	ACCUMULATION	INTEGER	Number of successful MS-initiated PDP context second activations in a specified RAI.	M117440671.S117466522	Sum	hustrafbh, Sum
_2G_MS_init_PDP_sec_context_act	ACCUMULATION	INTEGER	Number of MS-initiated PDP context second activation attempts in a specified RAI.	M117440671.S117466521	Sum	hustrafbh, Sum
_2G_MS_total_init_PDP_act_succ	ACCUMULATION	INTEGER	Number of successful MS-initiated PDP context activation and second activations in a specified RAI.	M117440671.S117466525	Sum	hustrafbh, Sum
_2G_MS_totally_init_PDP_act	ACCUMULATION	INTEGER	Number of MS-initiated PDP context	M117440671.S117466524	Sum	hustrafbh, Sum

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			activation and second activation attempts in a specified RAI.			
_2G_MS_totally_init_PDP_fail	ACCUMULATION	INTEGER	Number of failed MS-initiated PDP context activation and second activations in a specified RAI.	M117440671.S117466526	Sum	hustrafbh, Sum
_2G_NET_init_PDP_act_fail	ACCUMULATION	INTEGER	Number of failed NET-initiated PDP context activations in a specified RAI.	M117440671.S117466529	Sum	hustrafbh, Sum
_2G_NET_init_PDP_act_succ	ACCUMULATION	INTEGER	Number of successful NET-initiated PDP context activations in a specified RAI.	M117440671.S117466528	Sum	hustrafbh, Sum
_2G_NET_init_PDP_context_act	ACCUMULATION	INTEGER	Number of NET-initiated PDP context activation attempts in a specified RAI.	M117440671.S117466527	Sum	hustrafbh, Sum
_2G_NET_init_PDP_context_deact	ACCUMULATION	INTEGER	Number of NET-initiated PDP context deactivation attempts in a specified RAI.	M117440671.S117466539	Sum	hustrafbh, Sum
_2G_NET_init_PDP_dact_succ	ACCUMULATION	INTEGER	Number of successful NET-initiated PDP context deactivations in	M117440671.S117466540	Sum	hustrafbh, Sum

			a specified RAI.			
_2G_NET_init_PDP_deact_fail	ACCUMULATION	INTEGER	Number of failed NET-initiated PDP context deactivations in a specified RAI.	M117440671.S117466541	Sum	hustrafbh, Sum
_2G_PDP_fail_APN_Restriction	ACCUMULATION	INTEGER	Number of activation failures in a specified RAI (due to APN Restriction).	M117440671.S117466542	Sum	hustrafbh, Sum
_2G_SG_init_PDP_context_deact	ACCUMULATION	INTEGER	Number of SGSN-initiated PDP context deactivation attempts in a specified RAI.	M117440671.S117466533	Sum	hustrafbh, Sum
_2G_SG_init_PDP_context_mod	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Number of 2G SGSN initiated PDP context modification	M117440671.S117466545	Sum	hustrafbh, Sum
_2G_SG_init_PDP_deact_fail	ACCUMULATION	INTEGER	Number of failed SGSN-initiated PDP context deactivations in a specified RAI.	M117440671.S117466535	Sum	hustrafbh, Sum
_2G_SG_init_PDP_deact_succ	ACCUMULATION	INTEGER	Number of successful SGSN-initiated PDP context deactivations in	M117440671.S117466534	Sum	hustrafbh, Sum

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			a specified RAI.			
_2G_SG_init_PDP_mod_succ	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Number of 2G SGSN initiated PDP context modification success	M117440671.S117466546	Sum	hustrafbh, Sum
MS_init_PDP_context_act_success	ACCUMULATION	INTEGER	Number of successful MS-initiated PDP context activations in a specified RAI.	M117440671.S117466514	Sum	hustrafbh, Sum
MS_init_PDP_context_act	ACCUMULATION	INTEGER	Number of MS-initiated PDP context activation attempts in a specified RAI.	M117440671.S117466513	Sum	hustrafbh, Sum
PDP_context_act_fail_missing_APN	ACCUMULATION	INTEGER	Number of activation failures in a specified RAI (due to unknown APN).	M117440671.S117466518	Sum	hustrafbh, Sum
PDP_context_act_fail_service_unsubs	ACCUMULATION	INTEGER	Number of activation failures in a specified RAI (due to unsubscribed service).	M117440671.S117466520	Sum	hustrafbh, Sum
PDP_context_act_fail_service_unsupp	ACCUMULATION	INTEGER	Number of activation failures in a specified RAI (due to services not supported by the system).	M117440671.S117466519	Sum	hustrafbh, Sum

PDP_context_act_fail_unkown_PDP	ACCUMULATION	INTEGER	Number of activation failures in a specified RAI (due to unknown PDP address or type).	M117440671.S117466517	Sum	hustrafbh, Sum
PDP_context_act_fail_user_auth_fail	ACCUMULATION	INTEGER	Number of activation failures in a specified RAI (due to subscriber authentication failure).	M117440671.S117466516	Sum	hustrafbh, Sum
PDP_context_act_reject	ACCUMULATION	INTEGER	Number of activation rejects in a specified RAI.	M117440671.S117466515	Sum	hustrafbh, Sum

7.30.18Routing_Area.Huawei.GPRS.Specific_Routing_Area_SM_3G

Specific Routing Area SM 3G measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
_%_all_MS_init_PDP_act_succ	PERCENTAGE	FLOAT	All MS initiated PDP context activation success ratio in specific RAI	100 * {_3G_MS_total_init_PDP_act_succ}/{_3G_MS_totally_init_PDP_act}	Average	hustrafbh
_%_all_NET_init_PDP_mod_succ	PERCENTAGE	FLOAT	All Network initiated (SGSN + GGSN + RNC) PDP context modification success ratio in	100 * {_3G_totally_PDP_mod_succ}/{_3G_totally_PDP_context_mod}	Average	hustrafbh

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			specific RAI			
_%_GGSN_init_PDP_mod_succ	PERCENTAGE	FLOAT	GGSN initiated PDP context modification success ratio in specific RAI	100 * {_3G_GGSN_init_PDP_mod_succ}/ {_3G_GGSN_init_PDP_context_mod}	Average	hustrafbh
_%_MS_init_PDP_act_succ	PERCENTAGE	FLOAT	MS initiated PDP context activation success ratio in specific RAI	100 * {_3G_MS_init_PDP_act_succ}/ {_3G_MS_init_PDP_context_act}	Average	hustrafbh
_%_MS_init_PDP_mod_succ	PERCENTAGE	FLOAT	MS initiated PDP context modification success ratio in specific RAI	100 * {_3G_MS_init_PDP_mod_succ}/ {_3G_MS_init_PDP_context_mod}	Average	hustrafbh
_%_MS_init_sec_PDP_act_succ	PERCENTAGE	FLOAT	MS initiated Secondary PDP context activation success ratio in specific RAI	100 * {_3G_MS_init_PDP_sec_act_succ} / {_3G_MS_init_PDP_sec_context_act}	Average	hustrafbh
_%_NET_init_PDP_act_succ	PERCENTAGE	FLOAT	Network initiated PDP context activation success ratio	100 * {_3G_NET_init_PDP_act_succ}/ {_3G_NET_init_PDP_context_act}	Average	hustrafbh
_%_RNC_init_PDP_mod_succ	PERCENTAGE	FLOAT	RNC initiated PDP context modification success ratio in specific RAI	100 * {_3G_RNC_init_PDP_mod_succ}/ {_3G_RNC_init_PDP_context_mod}	Average	hustrafbh
_%_SGSN_init_PDP_mod_succ	PERCENTAGE	FLOAT	SGSN initiated PDP context modification success ratio in specific RAI	100 * {_3G_SG_init_PDP_mod_succ}/ {_3G_SG_init_PDP_context_mod}	Average	hustrafbh
_3G_GGSN_init_PDP_context	ACCUMULATION	INTEGER	Number of GGSN-initiated	M117440689.S117470934	Sum	hustrafbh

_mod			PDP context modifications attempts in a specified RAI.			
_3G_GGSN_init_PDP_deact_fail	ACCUMULATION	INTEGER	Number of failed GGSN-initiated PDP context deactivations in a specified RAI	M117440689.S117470948	Sum	hustrafbh
_3G_GGSN_init_PDP_deact_succ	ACCUMULATION	INTEGER	Number of successful GGSN-initiated PDP context deactivations in a specified RAI	M117440689.S117470947	Sum	hustrafbh
_3G_GGSN_init_PDP_deact	ACCUMULATION	INTEGER	Number of GGSN-initiated PDP context deactivation attempts in a specified RAI.	M117440689.S117470946	Sum	hustrafbh
_3G_GGSN_init_PDP_mod_fail	ACCUMULATION	INTEGER	Number of failed GGSN-initiated PDP context modifications in a specified RAI	M117440689.S117470936	Sum	hustrafbh
_3G_GGSN_init_PDP_mod_succ	ACCUMULATION	INTEGER	Number of successful GGSN-initiated PDP context modifications in a specified RAI.	M117440689.S117470935	Sum	hustrafbh
_3G_max_act_PDP_context	INTENSITY	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022:3	M117440689.S117470956	Average	hustrafbh, Maximum, Sum,

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			G Max act PDP context			Minimum
_3G_mean_act_PDP_context	INTENSITY	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022:3G Mean act PDP context	M117440689.S117470955	Average	hustrafbh, Sum, Minimum, Maximum
_3G_MS_init_PDP_act_fail	ACCUMULATION	INTEGER	Number of failed MS-initiated PDP context activations in a specified RAI.	M117440689.S117470915	Sum	hustrafbh
_3G_MS_init_PDP_act_succ	ACCUMULATION	INTEGER	Number of successful MS-initiated PDP context activations in a specified RAI	M117440689.S117470914	Sum	hustrafbh
_3G_MS_init_PDP_context_act	ACCUMULATION	INTEGER	Number of MS-initiated PDP context activation attempts in a specified RAI	M117440689.S117470913	Sum	hustrafbh
_3G_MS_init_PDP_context_mod	ACCUMULATION	INTEGER	Number of MS-initiated PDP context modifications attempts in a specified RAI	M117440689.S117470925	Sum	hustrafbh
_3G_MS_init_PDP_deact_fail	ACCUMULATION	INTEGER	Number of failed MS-initiated PDP context deactivations in a specified RAI.	M117440689.S117470942	Sum	hustrafbh
_3G_MS_init_PDP_deact_succ	ACCUMULATION	INTEGER	Number of successful MS-initiated PDP	M117440689.S117470941	Sum	hustrafbh

			context deactivations in a specified RAI.			
_3G_MS_init_PDP_deact	ACCUMULATION	INTEGER	Number of MS-initiated PDP context deactivation attempts in a specified RAI	M117440689.S117470940	Sum	hustrafbh
_3G_MS_init_PDP_mod_fail	ACCUMULATION	INTEGER	Number of failed MS-initiated PDP context modifications in a specified RAI.	M117440689.S117470927	Sum	hustrafbh
_3G_MS_init_PDP_mod_succ	ACCUMULATION	INTEGER	Number of successful MS-initiated PDP context modifications in a specified RAI.	M117440689.S117470926	Sum	hustrafbh
_3G_MS_init_PDP_sec_act_fail	ACCUMULATION	INTEGER	Number of failed MS-initiated PDP context second activations in a specified RAI	M117440689.S117470918	Sum	hustrafbh
_3G_MS_init_PDP_sec_act_succ	ACCUMULATION	INTEGER	Number of successful MS-initiated PDP context second activations in a specified RAI	M117440689.S117470917	Sum	hustrafbh
_3G_MS_init_PDP_sec_context_act	ACCUMULATION	INTEGER	Number of MS-initiated PDP context second activation attempts in a	M117440689.S117470916	Sum	hustrafbh

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			specified RAI			
_3G_MS_total_init_PDP_act_succ	ACCUMULATION	INTEGER	Number of successful MS-initiated PDP context activation and second activations in a specified RAI.	M117440689.S117470920	Sum	hustrafbh
_3G_MS_totally_init_PDP_act	ACCUMULATION	INTEGER	Number of MS-initiated PDP context activation and second activation attempts in a specified RAI	M117440689.S117470919	Sum	hustrafbh
_3G_MS_totally_init_PDP_fail	ACCUMULATION	INTEGER	Number of failed MS-initiated PDP context activation and second activations in a specified RAI.	M117440689.S117470921	Sum	hustrafbh
_3G_NET_init_PDP_act_fail	ACCUMULATION	INTEGER	Number of failed NET-initiated PDP context activations in a specified RAI.	M117440689.S117470924	Sum	hustrafbh
_3G_NET_init_PDP_act_succ	ACCUMULATION	INTEGER	Number of successful NET-initiated PDP context activations in a specified RAI.	M117440689.S117470923	Sum	hustrafbh
_3G_NET_init_PDP_context_act	ACCUMULATION	INTEGER	Number of NET-initiated PDP context activation attempts in a	M117440689.S117470922	Sum	hustrafbh

			specified RAI.			
_3G_NET_init_PDP_deact_fail	ACCUMULATION	INTEGER	Number of failed NET-initiated PDP context deactivations in a specified RAI	M117440689.S117470951	Sum	hustrafbh
_3G_NET_init_PDP_deact_succ	ACCUMULATION	INTEGER	Number of successful NET-initiated PDP context deactivations in a specified RAI	M117440689.S117470950	Sum	hustrafbh
_3G_NET_init_PDP_deact	ACCUMULATION	INTEGER	Number of NET-initiated PDP context deactivation attempts in a specified RAI	M117440689.S117470949	Sum	hustrafbh
_3G_RNC_init_PDP_context_mod	ACCUMULATION	INTEGER	Number of RNC-initiated PDP context modifications attempts in a specified RAI.	M117440689.S117470928	Sum	hustrafbh
_3G_RNC_init_PDP_mod_fail	ACCUMULATION	INTEGER	Number of failed RNC-initiated PDP context modifications in a specified RAI.	M117440689.S117470930	Sum	hustrafbh
_3G_RNC_init_PDP_mod_succ	ACCUMULATION	INTEGER	Number of successful RNC-initiated PDP context modifications in a specified RAI	M117440689.S117470929	Sum	hustrafbh

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_3G_SG_init_PDP_context_mod	ACCUMULATION	INTEGER	Number of SGSN-initiated PDP context modifications attempts in a specified RAI	M117440689.S117470931	Sum	hustrafbh
_3G_SG_init_PDP_deact_fail	ACCUMULATION	INTEGER	Number of failed SGSN-initiated PDP context deactivations in a specified RAI	M117440689.S117470945	Sum	hustrafbh
_3G_SG_init_PDP_deact_succ	ACCUMULATION	INTEGER	Number of successful SGSN-initiated PDP context deactivations in a specified RAI.	M117440689.S117470944	Sum	hustrafbh
_3G_SG_init_PDP_deact	ACCUMULATION	INTEGER	Number of SGSN-initiated PDP context deactivation attempts in a specified RAI.	M117440689.S117470943	Sum	hustrafbh
_3G_SG_init_PDP_mod_fail	ACCUMULATION	INTEGER	Number of failed SGSN-initiated PDP context modifications in a specified RAI.	M117440689.S117470933	Sum	hustrafbh
_3G_SG_init_PDP_mod_succ	ACCUMULATION	INTEGER	Number of successful SGSN-initiated PDP context modifications in a specified RAI	M117440689.S117470932	Sum	hustrafbh
_3G_total_PDP_context_deact	ACCUMULATION	INTEGER	Number of PDP context deactivation attempts in a specified RAI	M117440689.S117470952	Sum	hustrafbh

_3G_total_PDP_dact_fail	ACCUMULATION	INTEGER	Number of failed PDP context deactivations in a specified RAI	M117440689.S117470954	Sum	hustrafbh
_3G_total_PDP_deact_succ	ACCUMULATION	INTEGER	Number of successful PDP context deactivations in a specified RAI	M117440689.S117470953	Sum	hustrafbh
_3G_totally_PDP_context_mod	ACCUMULATION	INTEGER	Number of PDP context modifications attempts in a specified RAI.	M117440689.S117470937	Sum	hustrafbh
_3G_totally_PDP_mod_fail	ACCUMULATION	INTEGER	Number of failed PDP context modifications attempts in a specified RAI.	M117440689.S117470939	Sum	hustrafbh
_3G_totally_PDP_mod_succ	ACCUMULATION	INTEGER	Number of successful PDP context modifications attempts in a specified RAI	M117440689.S117470938	Sum	hustrafbh

7.31 SGSN Performance Indicators

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

- SGSN.Huawei.GPRS.ADMF_Messages_for_LI_User
- SGSN.Huawei.GPRS.Alarms_sent_to_ADMF
- SGSN.Huawei.GPRS.BSSAP_Basic_Traffic
- SGSN.Huawei.GPRS.BSSAP_Signaling_Procedure_Error_and_Timeout
- SGSN.Huawei.GPRS.CAMEL
- SGSN.Huawei.GPRS.Dropped_GTP_packet

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- SGSN.Huawei.GPRS.Dropped_IP_packet
- SGSN.Huawei.GPRS.Gb_mode_APN_correction
- SGSN.Huawei.GPRS.Gb_mode_attach_EDGE_user
- SGSN.Huawei.GPRS.Gb_Mode_Attach
- SGSN.Huawei.GPRS.Gb_Mode_Detach
- SGSN.Huawei.GPRS.Gb_Mode_Inter_SGSN_RAU
- SGSN.Huawei.GPRS.Gb_Mode_Intra_SGSN_RAU
- SGSN.Huawei.GPRS.Gb_Mode_L3_MM
- SGSN.Huawei.GPRS.Gb_Mode_Paging
- SGSN.Huawei.GPRS.Gb_Mode_PDP_Access_Reject
- SGSN.Huawei.GPRS.Gb_mode_PDP_act_EDGE_user
- SGSN.Huawei.GPRS.Gb_Mode_PDP_Context_Activation
- SGSN.Huawei.GPRS.Gb_Mode_PDP_Context_Deactivation
- SGSN.Huawei.GPRS.Gb_Mode_PDP_Context_Modification
- SGSN.Huawei.GPRS.Gb_Mode_Radio_Resource
- SGSN.Huawei.GPRS.Gb_Mode_Security
- SGSN.Huawei.GPRS.Gb_Mode_Service_Handover
- SGSN.Huawei.GPRS.Gb_Mode_SM_L3
- SGSN.Huawei.GPRS.Gb_Mode_SM_Resource
- SGSN.Huawei.GPRS.Gb_Mode_User_Access_Reject
- SGSN.Huawei.GPRS.GTP_Bearer
- SGSN.Huawei.GPRS.GTP_Message_Processing
- SGSN.Huawei.GPRS.GTP_System_NTP
- SGSN.Huawei.GPRS.GTPU_Bearer
- SGSN.Huawei.GPRS.GTPU_Data_Packets_Transfer_per_QoS
- SGSN.Huawei.GPRS.GTPU_Data_Packets_Transfer
- SGSN.Huawei.GPRS.GTPU_Gn_Interface
- SGSN.Huawei.GPRS.GTPU_Gp_Interface
- SGSN.Huawei.GPRS.GTPU_Message_Processing
- SGSN.Huawei.GPRS.GTPU_Unknown_Interface
- SGSN.Huawei.GPRS.Inter_System_Switch
- SGSN.Huawei.GPRS.IP_NS
- SGSN.Huawei.GPRS.IPSec
- SGSN.Huawei.GPRS.Iu_mode_APN_correction
- SGSN.Huawei.GPRS.Iu_Mode_Attach
- SGSN.Huawei.GPRS.Iu_Mode_Detach
- SGSN.Huawei.GPRS.Iu_Mode_Inter_SGSN_RAU
- SGSN.Huawei.GPRS.Iu_Mode_Intra_SGSN_RAU
- SGSN.Huawei.GPRS.Iu_Mode_L3_MM
- SGSN.Huawei.GPRS.Iu_Mode_Paging
- SGSN.Huawei.GPRS.Iu_Mode_PDP_Access_Reject
- SGSN.Huawei.GPRS.Iu_Mode_PDP_Context_Activation
- SGSN.Huawei.GPRS.Iu_Mode_PDP_Context_Deactivation
- SGSN.Huawei.GPRS.Iu_Mode_PDP_Context_Modification
- SGSN.Huawei.GPRS.Iu_Mode_PDP_Context_Reserve
- SGSN.Huawei.GPRS.Iu_Mode_RAB

- SGSN.Huawei.GPRS.Iu_Mode_Radio_Resource
- SGSN.Huawei.GPRS.Iu_Mode_Security
- SGSN.Huawei.GPRS.Iu_Mode_Service_Handover
- SGSN.Huawei.GPRS.Iu_Mode_Service_Request
- SGSN.Huawei.GPRS.Iu_Mode_SM_L3
- SGSN.Huawei.GPRS.Iu_Mode_SM_Resource
- SGSN.Huawei.GPRS.Iu_mode_tunnel_SM
- SGSN.Huawei.GPRS.Iu_Mode_User_Access_Reject
- SGSN.Huawei.GPRS.LCS
- SGSN.Huawei.GPRS.LI_Messages_Sent
- SGSN.Huawei.GPRS.MAP_Basic_Traffic
- SGSN.Huawei.GPRS.MAP_Common_Traffic_Procedure_Error
- SGSN.Huawei.GPRS.MAP_Gc_Message_Transfer_Traffic
- SGSN.Huawei.GPRS.MAP_Signaling_Procedure_Error_and_Timeout
- SGSN.Huawei.GPRS.MBMS_Broadcast_Bearer_Resource
- SGSN.Huawei.GPRS.MBMS_Broadcast_Session_Start
- SGSN.Huawei.GPRS.MBMS_Broadcast_Session_Stop
- SGSN.Huawei.GPRS.MTP_Signalling_Link
- SGSN.Huawei.GPRS.RANAP
- SGSN.Huawei.GPRS.SCCP_Availability
- SGSN.Huawei.GPRS.SCCP_Performance
- SGSN.Huawei.GPRS.SCCP_Utilization
- SGSN.Huawei.GPRS.SGSN_BSSGP
- SGSN.Huawei.GPRS.SGSN_CDR
- SGSN.Huawei.GPRS.SGSN_Compression_Card
- SGSN.Huawei.GPRS.SGSN_DNS_Request
- SGSN.Huawei.GPRS.SGSN_Encryption
- SGSN.Huawei.GPRS.SGSN_FR
- SGSN.Huawei.GPRS.SGSN_Gb_Resource
- SGSN.Huawei.GPRS.SGSN_LLC
- SGSN.Huawei.GPRS.SGSN_NS
- SGSN.Huawei.GPRS.SGSN_Relocation
- SGSN.Huawei.GPRS.SGSN_SNDCP
- SGSN.Huawei.GPRS.SMS_in_Gb
- SGSN.Huawei.GPRS.SMS_in_Iu
- SGSN.Huawei.GPRS.SMS
- SGSN.Huawei.GPRS.Supplementary_Service
- SGSN.Huawei.GPRS.TCAP_Component_Utilization
- SGSN.Huawei.GPRS.TCAP_CSL
- SGSN.Huawei.GPRS.TCAP_Message
- SGSN.Huawei.GPRS.TCAP_TSL
- SGSN.Huawei.GPRS.UE_Transfer_Bandwidth

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- SGSN.Huawei.GPRS.UGFU_NS_Transferred_IP_Packet

7.31.1 SGSN.Huawei.GPRS.ADMF_Messages_for_LI_User

ADMF Messages for LI User measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
Batch_operation_deact_LI_users	ACCUMULATION	INTEGER	Obsolete from R007. Number of batch operation of deactivating LI users	M117440646.S117464017	Sum	hustrafbh, Sum
Msg_to_activate_LI_user	ACCUMULATION	INTEGER	Obsolete from R007. Number of messages to activate LI user	M117440646.S117464013	Sum	hustrafbh, Sum
Msg_to_deactivate_LI_user	ACCUMULATION	INTEGER	Obsolete from R007. Number of messages to deactivate LI user	M117440646.S117464014	Sum	hustrafbh, Sum
Msg_to_modify_LI_user_information	ACCUMULATION	INTEGER	Obsolete from R007. Number of messages to modify LI user information	M117440646.S117464015	Sum	hustrafbh, Sum
Msg_to_query_LI_user_information	ACCUMULATION	INTEGER	Obsolete from R007. Number of messages to query LI user information	M117440646.S117464016	Sum	hustrafbh, Sum

7.31.2 SGSN.Huawei.GPRS.Alarms_sent_to_ADMF

Alarms sent to ADMF measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators

IDP_buffer_over_flow_alarm_cleared	ACCUMULATION	INTEGER	Obsolete from R007. Number of IDP buffer overflow alarm is cleared	M117440645.S117463926	Sum	hustrafbh, Sum
IDP_buffer_over_flow_alarms	ACCUMULATION	INTEGER	Obsolete from R007. Number of IDP buffer overflow alarms	M117440645.S117463925	Sum	hustrafbh, Sum
IDP_connection_fault_alarm_cleared	ACCUMULATION	INTEGER	Obsolete from R007. Number of IDP connection fault alarm is cleared	M117440645.S117463922	Sum	hustrafbh, Sum
IDP_connection_fault_alarms	ACCUMULATION	INTEGER	Obsolete from R007. Number of IDP connection fault alarms	M117440645.S117463921	Sum	hustrafbh, Sum
IDP_pkt_discard_alarm_cleared	ACCUMULATION	INTEGER	Obsolete from R007. Number of IDP packet discard alarm is cleared	M117440645.S117463928	Sum	hustrafbh, Sum
IDP_pkt_discard_alarms	ACCUMULATION	INTEGER	Obsolete from R007. Number of IDP packet discard alarms	M117440645.S117463927	Sum	hustrafbh, Sum
IDP_resp_time_length_alarm_cleared	ACCUMULATION	INTEGER	Obsolete from R007. Number of IDP response time overlength alarm is cleared	M117440645.S117463924	Sum	hustrafbh, Sum
IDP_resp_time_length_alarms	ACCUMULATION	INTEGER	Obsolete from R007. Number of IDP response	M117440645.S117463923	Sum	hustrafbh, Sum

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			time overlength alarms			
IRI_buffer_overflow_alarm_cleared	ACCUMULATION	INTEGER	Obsolete from R007. Number of IRI buffer overflow alarm is cleared	M117440645.S117463918	Sum	hustrafbh, Sum
IRI_buffer_overflow_alarms	ACCUMULATION	INTEGER	Obsolete from R007. Number of IRI buffer overflow alarms	M117440645.S117463917	Sum	hustrafbh, Sum
IRI_connection_fault_alarm_cleared	ACCUMULATION	INTEGER	Obsolete from R007. Number of IRI connection fault alarm is cleared	M117440645.S117463914	Sum	hustrafbh, Sum
IRI_connection_fault_alarms	ACCUMULATION	INTEGER	Obsolete from R007. Number of IRI connection fault alarms	M117440645.S117463913	Sum	hustrafbh, Sum
IRI_pkt_discard_alarm_cleared	ACCUMULATION	INTEGER	Obsolete from R007. Number of IRI packet discard alarm is cleared	M117440645.S117463920	Sum	hustrafbh, Sum
IRI_pkt_discard_alarms	ACCUMULATION	INTEGER	Obsolete from R007. Number of IRI packet discard alarms	M117440645.S117463919	Sum	hustrafbh, Sum
IRI_resp_time_length_alarm_cleared	ACCUMULATION	INTEGER	Obsolete from R007. Number of IRI response time overlength alarm is cleared	M117440645.S117463916	Sum	hustrafbh, Sum
IRI_resp_time_over_length_alarms	ACCUMULATION	INTEGER	Obsolete from R007. Number of IRI response time overlength alarms	M117440645.S117463915	Sum	hustrafbh, Sum

7.31.3 SGSN.Huawei.GPRS.BSSAP_Basic_Traffic

BSSAP Basic Traffic measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
DL_TOM_message_number_rec_from_Gs	ACCUMULATION	INTEGER	Number of downlink TOM message received from Gs interface.	M117440608.S117460236	Sum	hustrafbh, Sum
Exiplicit_non_GPRS_service_detach_times	ACCUMULATION	INTEGER	Definition Number of times notifying VLR to perform service detachment and cancel the association due to MS non-GPRS service detachment.	M117440608.S117460219	Sum	hustrafbh, Sum
Explicit_GPRS_service_detach_times	ACCUMULATION	INTEGER	Number of times notifying VLR to cancel the association due to MS GPRS service detachment.	M117440608.S117460218	Sum	hustrafbh, Sum
Non_GPRS_location_update	ACCUMULATION	INTEGER	Number of times SGSN initiates the non-GPRS location update to VLR.	M117440608.S117460216	Sum	hustrafbh, Sum
Refuse_CS_paging	ACCUMULATION	INTEGER	Number of paging rejects when VLR initiates the	M117440608.S117460215	Sum	hustrafbh, Sum

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			circuit paging for the user is at the un-associated status.			
Refuse_non_GPRS_location_update	ACCUMULATION	INTEGER	Number of times SGSN fails in initiating the non-GPRS location update to VLR.	M117440608.S117460217	Sum	hustrafbh, Sum
Request_CS_paging	ACCUMULATION	INTEGER	Number of requests for circuit paging initiated by VLR.	M117440608.S117460213	Sum	hustrafbh, Sum
SGSN_rec_Loc_update_accept_message	ACCUMULATION	INTEGER	Number of "LA UPDATE ACCEPT" message received by SGSN	M117440608.S117460221	Sum	hustrafbh, Sum
SGSN_rec_non_GPRS_ind_request	ACCUMULATION	INTEGER	Number of "Alert Request" message received by SGSN	M117440608.S117460222	Sum	hustrafbh, Sum
SGSN_receive_GPRS_detach_response	ACCUMULATION	INTEGER	Number of "GPRS Detach Response" message received by SGSN	M117440608.S117460226	Sum	hustrafbh, Sum
SGSN_receive_IMSI_detach_response	ACCUMULATION	INTEGER	Number of "IMSI Detach Response" message received by SGSN	M117440608.S117460227	Sum	hustrafbh, Sum
SGSN_receive_MM_message_request	ACCUMULATION	INTEGER	Number of "MM Information" message received by SGSN	M117440608.S117460233	Sum	hustrafbh, Sum
SGSN_receive_MS_message_request	ACCUMULATION	INTEGER	Number of "MS Information Request" message received	M117440608.S117460232	Sum	hustrafbh, Sum

			by SGSN			
SGSN_receive_reset_indication	ACCUMULATION	INTEGER	Number of "VLR reset indication" message received by SGSN	M117440608.S117460228	Sum	hustrafbh, Sum
SGSN_receive_reset_response	ACCUMULATION	INTEGER	Number of "SGSN reset response" message received by SGSN	M117440608.S117460230	Sum	hustrafbh, Sum
SGSN_send_MS_activity_related_notice	ACCUMULATION	INTEGER	Number of "MS Activity Indication" message sent from SGSN	M117440608.S117460225	Sum	hustrafbh, Sum
SGSN_send_MS_INFORMATION_RESPONSE_success	ACCUMULATION	INTEGER	Number of MS-INFORMATION-RESPONSE message sent by SGSN.	M117440608.S117460235	Sum	hustrafbh, Sum
SGSN_send_non_GPRS_ind_request_rej	ACCUMULATION	INTEGER	Number of "Alert Reject" message sent from SGSN	M117440608.S117460224	Sum	hustrafbh, Sum
SGSN_send_non_GPRS_ind_request_resp	ACCUMULATION	INTEGER	Number of "Alert Response" message sent from SGSN	M117440608.S117460223	Sum	hustrafbh, Sum
SGSN_send_reset_indication	ACCUMULATION	INTEGER	Number of "SGSN reset indication" message sent from SGSN	M117440608.S117460229	Sum	hustrafbh, Sum
SGSN_send_reset_response	ACCUMULATION	INTEGER	Number of "VLR reset response" message sent	M117440608.S117460231	Sum	hustrafbh, Sum

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			from SGSN			
SGSN_send_TMSI_REALLOCATION_COMPLETE_success	ACCUMULATION	INTEGER	Number of TMSI-REALLOCATION-COMPLETE message sent by SGSN.	M117440608.S117460234	Sum	hustrafbh, Sum
Times_of_detach_from_non_GPRS_service	ACCUMULATION	INTEGER	Number of times notifying VLR to perform service detachment and cancel association when SGSN deletes the GMM context of the user or it is marked as DETACHED.	M117440608.S117460220	Sum	hustrafbh, Sum
UL_TOM_message_number_sent_from_Gs	ACCUMULATION	INTEGER	Number of uplink TOM message to Gs interface sent from SGSN.	M117440608.S117460237	Sum	hustrafbh, Sum
User_unreachable_for_CS_paging	ACCUMULATION	INTEGER	Number of failed circuit pagings initiated by VLR (for the user is unreachable).	M117440608.S117460214	Sum	hustrafbh, Sum

7.31.4 SGSN.Huawei.GPRS.BSSAP_Signaling_Procedure_Error_and_Timeout

BSSAP Signaling Procedure Error and Timeout measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
Gs_Cause_Ciphering_failed_number	ACCUMULATION	INTEGER	Number of Gs Cause Ciphering failed.	M117440609.S117460320	Sum	hustrafbh, Sum
IMSI_unknown_errors	ACCUMULATION	INTEGER	Number of BSSAP+	M117440609.S117460313	Sum	hustrafbh, Sum

			messages of times IMSI unknown errors occur.			
Inconsistent_association_status_error_times	ACCUMULATION	INTEGER	Number of BSSAP+ messages of times the error of association status inconsistency occurs.	M117440609.S117460314	Sum	hustrafbh, Sum
MSC_VLR_receiving_error_message	ACCUMULATION	INTEGER	Number of error BSSAP+ messages sent from this SGSN to the associated VLR.	M117440609.S117460316	Sum	hustrafbh, Sum
MSC_VLR_response_timeout_times	ACCUMULATION	INTEGER	Number of times SGSN does not receive the MSC/VLR response within the specified time.	M117440609.S117460318	Sum	hustrafbh, Sum
Number_of_TOM_funct_SGSN_not_support	ACCUMULATION	INTEGER	Number of TOM functionality not supported by SGSN.	M117440609.S117460319	Sum	hustrafbh, Sum
Rec_fail_notice_message_by_SCCP	ACCUMULATION	INTEGER	Number of failures of SCCP in sending the BSSAP+ message.	M117440609.S117460317	Sum	hustrafbh, Sum
SGSN_receivin	ACCUMULA	INTEG	Number of	M117440609.S117	Sum	hustrafbh

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g_error_message	TION	ER	BSSAP+ messages received from VLR that do not comply with the protocol.	460315		, Sum
Timeout_for_BSSAP_LU_req_msg	ACCUMULATION	INTEGER	The number of times SGSN does not receive the MSC/VLR response within the specified time when it has sent location update reqest message.	M117440609.S117460321	Sum	hustrafbh, Sum
Timeout_Gprs_IMSI_Detach	ACCUMULATION	INTEGER	The number of times SGSN does not receive the MSC/VLR response within the specified time when it has sent GPRS detach or IMSI detach message.	M117440609.S117460322	Sum	hustrafbh, Sum

7.31.5 SGSN.Huawei.GPRS.CAMEL

CAMEL measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
ActivityTestGPRS_oper_rec	ACCUMULATION	INTEGER	Number of ActivityTestGPRS operations received by SGSN.	M117440627.S11746213 0	Sum	hustrafbh, Sum
ApplyChargingGPRS_oper_rec	ACCUMULATION	INTEGER	Number of ApplyChargingGPRS operations received by SGSN.	M117440627.S11746212 5	Sum	hustrafbh, Sum

ApplyChargingReportGPRS_oper_sent	ACCUMULATION	INTEGER	Number of ApplyChargingReportGPRS operations transmitted by SGSN.	M1174406 27.S11746212 4	Sum	hustrafbh, Sum
Average_duration_of_per_TCAP_dialogues	INTENSITY	INTEGER	The arithmetic mean of the time for TCAP dialogues.	M1174406 27.S11746212 0	Average	Average, hustrafbh, Maximum, Minimum, Sum
Avg_CAMEL_PDP_of_scenario1	INTENSITY	INTEGER	The mean number of CAMEL PDP contexts in scenario 1	M1174406 27.S11746216 3	Average	Average, hustrafbh, Maximum, Minimum, Sum
Avg_CAMEL_PDP_of_scenario2	INTENSITY	INTEGER	The mean number of CAMEL PDP contexts in scenario 2	M1174406 27.S11746216 4	Average	Average, hustrafbh, Maximum, Minimum, Sum
Avg_CAMEL_PDP	INTENSITY	INTEGER	The mean number of CAMEL PDP contexts in scenarios 1 and 2	M1174406 27.S11746216 5	Average	Average, hustrafbh, Maximum, Minimum, Sum
Avg_CAMEL_users_of_scenario1	INTENSITY	INTEGER	The mean number of CAMEL subscribers in	M1174406 27.S1	Average	Average,

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			scenario 1	17462160		hustrafbh, Maximum, Minimum, Sum
Avg_CAMEL_users_of_scenario2	INTENSITY	INTEGER	The mean number of CAMEL subscribers in scenario 2	M11744 0627.S1 1746216 1	Average	Average, hustrafbh, Maximum, Minimum, Sum
Avg_prepaid_users	INTENSITY	INTEGER	The mean number of CAMEL subscribers in scenarios 1 and 2	M11744 0627.S1 1746216 2	Average	Average, hustrafbh, Maximum, Minimum, Sum
CancelGPRS_oper_rec	ACCUMULATION	INTEGER	Number of CancelGPRS operations received by SGSN.	M11744 0627.S1 1746213 1	Sum	hustrafbh, Sum
Communication_fail	ACCUMULATION	INTEGER	Number of unsuccessful TCAP dialogues between SGSN and SCP.	M11744 0627.S1 1746212 1	Sum	hustrafbh, Sum
Component_rec	ACCUMULATION	INTEGER	Total number of elements received by SGSN.	M11744 0627.S1 1746215 9	Sum	hustrafbh, Sum
Component_sent	ACCUMULATION	INTEGER	Total number of elements transmitted by SGSN.	M11744 0627.S1 1746215 8	Sum	hustrafbh, Sum
ConnectGPRS_oper_rec	ACCUMULATION	INTEGER	Number of connectGPRS operations received by	M11744 0627.S1 1746213	Sum	hustrafbh, Sum

			SGSN.	4		
ConnectSMS_oper_rec	ACCUMULATION	INTEGER	Number of ConnectSMS operations received by SGSN.	M11744 0627.S1 1746214 0	Sum	hustrafb h, Sum
ContinueGPRS_oper_rec	ACCUMULATION	INTEGER	Number of continueGPRS operations received by SGSN.	M11744 0627.S1 1746213 2	Sum	hustrafb h, Sum
ContinueSMS_oper_rec	ACCUMULATION	INTEGER	Number of ContinueSMS operations received by SGSN.	M11744 0627.S1 1746214 1	Sum	hustrafb h, Sum
EntityReleasedGPRS_oper_sent	ACCUMULATION	INTEGER	Number of EntityReleasedGPRS operations transmitted by SGSN.	M11744 0627.S1 1746212 6	Sum	hustrafb h, Sum
EventReportGPRS_operations_sent	ACCUMULATION	INTEGER	Number of EventReportGPRS operations transmitted by SGSN.	M11744 0627.S1 1746212 7	Sum	hustrafb h, Sum
EventReportSMS_oper_sent	ACCUMULATION	INTEGER	Number of EventReportSMS operations transmitted by SGSN.	M11744 0627.S1 1746213 8	Sum	hustrafb h, Sum
FurnishChargingInformationGPRS_rec	ACCUMULATION	INTEGER	Number of FurnishChargingInformationGPRS operations received by SGSN.	M11744 0627.S1 1746213 7	Sum	hustrafb h, Sum
FurnishChargingInformationSMS_rec	ACCUMULATION	INTEGER	Number of FurnishChargingInformationSMS operations received by SGSN.	M11744 0627.S1 1746214 2	Sum	hustrafb h, Sum
InitialDPGPRS_oper_sent	ACCUMULATION	INTEGER	Number of InitialDPGPRS	M11744 0627.S1	Sum	hustrafb h, Sum

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			operations transmitted by SGSN.	17462129		
InitialDPSMS_oper_sent	ACCUMULATION	INTEGER	Number of InitialDPSMS operations transmitted by SGSN.	M11744 0627.S1 1746213 9	Sum	hustrafbh, Sum
Invalid_operations_rec	ACCUMULATION	INTEGER	Number of invalid operations received from SCP.	M11744 0627.S1 1746214 8	Sum	hustrafbh, Sum
ReleaseGPRS_oper_rec	ACCUMULATION	INTEGER	Number of ReleaseGPRS operations received by SGSN.	M11744 0627.S1 1746213 5	Sum	hustrafbh, Sum
ReleaseSMS_oper_rec	ACCUMULATION	INTEGER	Number of ReleaseSMS operations received by SGSN.	M11744 0627.S1 1746214 3	Sum	hustrafbh, Sum
RequestReportGPRSEvent_oper_rec	ACCUMULATION	INTEGER	Number of RequestReportGPRSEvent operations received by SGSN.	M11744 0627.S1 1746212 8	Sum	hustrafbh, Sum
RequestReportSMSEvent_rec	ACCUMULATION	INTEGER	Number of RequestReportSMSEvent operations received by SGSN.	M11744 0627.S1 1746214 4	Sum	hustrafbh, Sum
ResetTimerGPRS_oper_rec	ACCUMULATION	INTEGER	Number of ResetTimerGPRS operations received by SGSN.	M11744 0627.S1 1746213 3	Sum	hustrafbh, Sum
ResetTimerSMS_operations_rec	ACCUMULATION	INTEGER	Number of ResetTimerSMS operations received by SGSN.	M11744 0627.S1 1746214 5	Sum	hustrafbh, Sum
SendChargingInformationGPRS_rec	ACCUMULATION	INTEGER	Number of SendChargingInformationGPRS operations received by SGSN.	M11744 0627.S1 1746213 6	Sum	hustrafbh, Sum
SGSN_init_TC_Aborts	ACCUMULATION	INTEGER	Number of times the TCAP dialogue	M11744 0627.S1	Sum	hustrafbh, Sum

			released by SGSN due to exception.	17462115		
SGSN_init_TCAP_dialogues	ACCUMULATION	INTEGER	Number of TCAP dialogues originated by SGSN.	M11744 0627.S1 17462113	Sum	hustrafbh, Sum
SGSN_rec_TC_Aborts	ACCUMULATION	INTEGER	Number of times the TCAP dialogue released by SCP or low layer due to exception released.	M11744 0627.S1 17462116	Sum	hustrafbh, Sum
SGSN_rec_TC_NOTICEs	ACCUMULATION	INTEGER	Number of low level encounters errors.	M11744 0627.S1 17462117	Sum	hustrafbh, Sum
SGSN_rec_TCAP_dialogues	ACCUMULATION	INTEGER	Number of TCAP dialogues received by SGSN.	M11744 0627.S1 17462114	Sum	hustrafbh, Sum
TC_Cancels_rec	ACCUMULATION	INTEGER	Number of TC_Cancel messages received by SGSN.	M11744 0627.S1 17462157	Sum	hustrafbh, Sum
TC_Errors_rec	ACCUMULATION	INTEGER	Number of TC_Error messages received by SGSN.	M11744 0627.S1 17462156	Sum	hustrafbh, Sum
TC_Errors_sent	ACCUMULATION	INTEGER	Number of TC_Error messages transmitted by SGSN.	M11744 0627.S1 17462155	Sum	hustrafbh, Sum
TC_Guard_timer_expires	ACCUMULATION	INTEGER	The times of the TC guard timer expires.	M11744 0627.S1 17462123	Sum	hustrafbh, Sum
TC_Invokes_rec	ACCUMUL	INTE	Number of TC_Invoke	M11744	Sum	hustrafb

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	ATION	GER	messages received by SGSN.	0627.S1 1746215 0		h, Sum
TC_Invokes_sent	ACCUMUL ATION	INTE GER	Number of TC_Invoke messages transmitted by SGSN.	M11744 0627.S1 1746214 9	Sum	hustrafb h, Sum
TC_Rejects_rec	ACCUMUL ATION	INTE GER	Number of TC_Reject messages received by SGSN.	M11744 0627.S1 1746215 2	Sum	hustrafb h, Sum
TC_Rejects_sent	ACCUMUL ATION	INTE GER	Number of TC_Reject messages transmitted by SGSN.	M11744 0627.S1 1746215 1	Sum	hustrafb h, Sum
TC_Results_rec	ACCUMUL ATION	INTE GER	Number of TC_Result messages received by SGSN.	M11744 0627.S1 1746215 4	Sum	hustrafb h, Sum
TC_Results_sent	ACCUMUL ATION	INTE GER	Number of TC_Result messages transmitted by SGSN.	M11744 0627.S1 1746215 3	Sum	hustrafb h, Sum
TCAP_total_dialogues	ACCUMUL ATION	INTE GER	Number of TCAP dialogues handled by SGSN.	M11744 0627.S1 1746211 9	Sum	hustrafb h, Sum
Total_duration_of_TC AP_dialogues	ACCUMUL ATION	INTE GER	The time for all TCAP dialogues.	M11744 0627.S1 1746211 8	Sum	hustrafb h, Sum
Total_operations_rec	ACCUMUL ATION	INTE GER	Number of operations received by SGSN.	M11744 0627.S1 1746214 6	Sum	hustrafb h, Sum
Total_operations_sent	ACCUMUL ATION	INTE GER	Number of operations transmitted by SGSN.	M11744 0627.S1 1746214 7	Sum	hustrafb h, Sum
Tssf_timer_expires	ACCUMUL	INTE	The times of the Tssf	M11744	Sum	hustrafb

	ATION	GER	timer expires.	0627.S1 1746212 2		h, Sum

7.31.6 SGSN.Huawei.GPRS.Dropped_GTP_packet

Abnormal GTP packet measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
Dropped_pkts_for_illegal_GTPC	ACCUMULATION	INTEGER	Number of illegal GTPC packets	M117440717.S117474013	Sum	hustrafbh
Dropped_pkts_for_illegal_GTPU	ACCUMULATION	INTEGER	Number of illegal GTPU packets	M117440717.S117474014	Sum	hustrafbh

7.31.7 SGSN.Huawei.GPRS.Dropped_IP_packet

Antivirus packet measuement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
Drop_pkt_for_source_IP_check	ACCUMULATION	INTEGER	Number of illegal source ip packets	M117440716.S117473914	Sum	hustrafbh
Dropped_pkts_for_virus_rules	ACCUMULATION	INTEGER	Number of virus packets	M117440716.S117473913	Sum	hustrafbh

7.31.8 SGSN.Huawei.GPRS.Gb_mode_APN_correction

APN correction measurement in Gb mode.

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators

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_2G_APN_replace_to_default_APN	ACCUMULATION	INTEGER	Times of APN replacement to default APN in 2G procedure	M117440680.S117470016	Sum	hustrafbh, Sum
_2G_APN_replace_to_subscribed_APN	ACCUMULATION	INTEGER	Times of APN replacement to subscribed APN in 2G procedure	M117440680.S117470015	Sum	hustrafbh, Sum
_2G_MS_act_with_blank_APN	ACCUMULATION	INTEGER	Times of blank APN carried in the 2G MS init act request	M117440680.S117470014	Sum	hustrafbh, Sum
_2G_MS_act_with_incorrect_APN	ACCUMULATION	INTEGER	Times of incorrect APN carried in the 2G MS init act request	M117440680.S117470013	Sum	hustrafbh, Sum

7.31.9 SGSN.Huawei.GPRS.Gb_mode_attach_EDGE_user

GPRS attachment procedures of EDGE user.

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
Gb_mode_GPRS_attach_accept_times_of_EDGE_user	ACCUMULATION	INTEGER	Number of successful GPRS attachment procedures of EDGE user.	M117440678.S117469813	Sum	hustrafbh, Sum
GPRS_Att_acc_EDGE_user	ACCUMULATION	INTEGER	The numbers of successful GPRS attachment procedures of EDGE user.	M117440678.S117469814	Sum	hustrafbh, Sum

7.31.10SGSN.Huawei.GPRS.Gb_Mode_Attach

Gb Mode Attach measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
_%_Attach_accept	PERCENTAGE	FLOAT	Percentage of GPRS attachment successes within the SGSN.	100 * {Attach_accept}/ {Attach_request}	Average	Average, hustrafbh
_%_Combined_att_accept	PERCENTAGE	FLOAT	Percentage of GPRS/IMSI attachment successes within the SGSN.	100 * {Combined_att_accept}/ {Combined_att_request}	Average	Average, hustrafbh
Att_reject_Ge_fail	ACCUMULATION	INTEGER	Number of GPRS attachment failures within SGSN due to Ge protocol error.	M117440551.S117454522	Sum	hustrafbh, Sum
Att_reject_GPRS_not_allowed_in_PLMN	ACCUMULATION	INTEGER	Number of GPRS attachment rejects due to GPRS service is not allowed in this PLMN.	M117440551.S117454545	Sum	hustrafbh, Sum
Att_reject_GPRS_service_not_allowed	ACCUMULATION	INTEGER	Number of GPRS attachment failures within SGSN due to GPRS services not allowed.	M117440551.S117454519	Sum	hustrafbh, Sum
Att_reject_Gr_fail	ACCUMULATION	INTEGER	Number of GPRS	M117440551.S117454521	Sum	hustrafbh, Sum

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			attachment failures within SGSN due to Gr protocol error.			
Att_reject_LA_not_allowed	ACCUMULATION	INTEGER	Number of GPRS attachment failures within SGSN due to LA roaming restriction.	M117440551.S117454516	Sum	hustrafbh, Sum
Att_reject_no_suitable_Cells_in_LA	ACCUMULATION	INTEGER	Number of GPRS attachment rejects due to Location Area not allowed.	M117440551.S117454546	Sum	hustrafbh, Sum
Att_reject_protocol_error	ACCUMULATION	INTEGER	Number of GPRS attachment failures within SGSN due to protocol error.	M117440551.S117454520	Sum	hustrafbh, Sum
Att_reject_roaming_not_allowed	ACCUMULATION	INTEGER	Number of GPRS attachment rejects due to no suitable Cells in LA.	M117440551.S117454517	Sum	hustrafbh, Sum
Att_reject_times_illegal_ME	ACCUMULATION	INTEGER	Number of GPRS attachment failures within SGSN due to illegal ME.	M117440551.S117454518	Sum	hustrafbh, Sum
Att_reject_times_illegal_MS	ACCUMULATION	INTEGER	Number of GPRS attachment rejects due to illegal mobile station.	M117440551.S117454515	Sum	hustrafbh, Sum

Attach_accept	ACCUMULATION	INTEGER	Number of GPRS attachment successes within the SGSN.	M117440551.S117454514	Sum	hustrafbh, Sum
Attach_request	ACCUMULATION	INTEGER	Number of GPRS attachment requests within the SGSN.	M117440551.S117454513	Sum	hustrafbh, Sum
Combined_att_accept	ACCUMULATION	INTEGER	Number of GPRS/IMSI attachment successes within the SGSN.	M117440551.S117454524	Sum	hustrafbh, Sum
Combined_att_reject_Ge_fail	ACCUMULATION	INTEGER	Number of combined GPRS/IMSI attachment failures within SGSN due to Ge protocol error.	M117440551.S117454532	Sum	hustrafbh, Sum
Combined_att_reject_GPRS_not_allow	ACCUMULATION	INTEGER	Number of combined GPRS/IMSI attachment rejects due to GPRS service is not allowed in this PLMN.	M117440551.S117454547	Sum	hustrafbh, Sum
Combined_att_reject_Gr_fail	ACCUMULATION	INTEGER	Number of combined GPRS/IMSI attachment failures within	M117440551.S117454531	Sum	hustrafbh, Sum

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			SGSN due to Gr protocol error.			
Combined_att_reject_illegal_ME	ACCUMULATION	INTEGER	Number of combined GPRS/IMSI attachment failures within SGSN due to illegal ME.	M117440551.S117454528	Sum	hustrafbh, Sum
Combined_att_reject_illegal_MS	ACCUMULATION	INTEGER	Number of combined GPRS/IMSI attachment rejects due to illegal mobile station.	M117440551.S117454525	Sum	hustrafbh, Sum
Combined_att_reject_LA_not_allowed	ACCUMULATION	INTEGER	Number of combined GPRS/IMSI attachment failures within SGSN due to LA roaming restriction.	M117440551.S117454526	Sum	hustrafbh, Sum
Combined_att_reject_No_suit_Cells	ACCUMULATION	INTEGER	Number of combined GPRS/IMSI attachment rejects due to Location Area not allowed.	M117440551.S117454548	Sum	hustrafbh, Sum
Combined_att_reject_protocol_error	ACCUMULATION	INTEGER	Number of combined GPRS/IMSI attachment failures within SGSN due to protocol error.	M117440551.S117454530	Sum	hustrafbh, Sum
Combined_att_reject_roam_not_allow	ACCUMULATION	INTEGER	Number of combined GPRS/IMSI	M117440551.S117454527	Sum	hustrafbh, Sum

			attachment rejects due to no suitable Cells in LA.			
Combined_att_reject_srvc_not_allow	ACCUMULATION	INTEGER	Number of combined GPRS/IMSI attachment failures within SGSN due to GPRS services not allowed.	M117440551.S117454529	Sum	hustrafbh, Sum
Combined_att_request	ACCUMULATION	INTEGER	Number of combined GPRS/IMAI attachment requests within the SGSN.	M117440551.S117454523	Sum	hustrafbh, Sum
Gb_max_Att_req_IMSI_Attd	INTENSITY	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022 :Maximum number of Gb mode GPRS attach request times while IMSI attached	M117440551.S117454554	Average	Average, hustrafbh, Maximum, Minimum, Sum
Gb_max_combined_Att_req	INTENSITY	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022 :Maximum number of Gb mode combined attach request	M117440551.S117454553	Average	Average, hustrafbh, Maximum, Minimum, Sum
Gb_max_GPRS	INTENSITY	INTEG	Obsolete from	M117440551.S117	Average	Average,

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_Att_req		ER	CN-SGSN/V900R010.C01SPC022:Maximum number of Gb mode GPRS attach request	454552		hustrafbh, Maximum, Minimum, Sum
GPRS_att_accept_while_IMSI_att	ACCUMULATION	INTEGER	Number of IMSI-attached GPRS attachment successes within the SGSN.	M117440551.S117454536	Sum	hustrafbh, Sum
GPRS_att_refuse_due_illegal_MS	ACCUMULATION	INTEGER	Number of IMSI-attached GPRS attachment rejects due to illegal mobile station.	M117440551.S117454537	Sum	hustrafbh, Sum
GPRS_att_refuse_ill_ME_wh_IMSI_att	ACCUMULATION	INTEGER	Number of IMSI-attached GPRS attachment failures within SGSN due to illegal ME.	M117440551.S117454540	Sum	hustrafbh, Sum
GPRS_att_request_while_IMSI_att	ACCUMULATION	INTEGER	Number of IMSI-attached GPRS attachment requests within the SGSN.	M117440551.S117454535	Sum	hustrafbh, Sum
IMSI_att_failed_MSC_unreachable	ACCUMULATION	INTEGER	Number of times GPRS attachment succeeds but IMSI attachment fails (MSC presently unreachable).	M117440551.S117454534	Sum	hustrafbh, Sum

IMSI_att_failed_VLR_reject	ACCUMULATION	INTEGER	GPRS attachment succeeds while the IMSI attachment fails (rejected by VLR).	M117440551.S117454533	Sum	hustrafbh, Sum
IMSI_GPRS_att_rej_srvc_not_allow	ACCUMULATION	INTEGER	Number of IMSI-attached GPRS attachment failures within SGSN due to GPRS services not allowed.	M117440551.S117454541	Sum	hustrafbh, Sum
IMSI_GPRS_att_reject_Ge_fail	ACCUMULATION	INTEGER	Number of IMSI-attached GPRS attachment failures within SGSN due to Ge protocol error.	M117440551.S117454544	Sum	hustrafbh, Sum
IMSI_GPRS_att_reject_GPRS_not_allow	ACCUMULATION	INTEGER	Number of IMSI-attached GPRS attachment rejects due to GPRS service is not allowed in this PLMN.	M117440551.S117454549	Sum	hustrafbh, Sum
IMSI_GPRS_att_reject_Gr_fail	ACCUMULATION	INTEGER	Number of IMSI-attached GPRS attachment failures within SGSN due to Gr protocol error.	M117440551.S117454543	Sum	hustrafbh, Sum

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IMSI_GPRS_att_reject_LA_not_allowed	ACCUMULATION	INTEGER	Number of IMSI-attached GPRS attachment of non-HPLMN users failures within SGSN due to LA roaming restriction.	M117440551.S117454538	Sum	hustrafbh, Sum
IMSI_GPRS_att_reject_No_suit_Cells	ACCUMULATION	INTEGER	Number of IMSI-attached GPRS attachment of HPLMN users rejects due to Location Area not allowed.	M117440551.S117454550	Sum	hustrafbh, Sum
IMSI_GPRS_att_reject_protocol_error	ACCUMULATION	INTEGER	Number of IMSI-attached GPRS attachment failures within SGSN due to protocol error.	M117440551.S117454542	Sum	hustrafbh, Sum
IMSI_GPRS_att_reject_roam_not_allow	ACCUMULATION	INTEGER	Number of IMSI-attached GPRS attachment rejects due to no suitable Cells in LA.	M117440551.S117454539	Sum	hustrafbh, Sum
USPU_drop_Att_req_2G_flwctrl	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022 :USPU drop Attach request packets of 2G due to flow control	M117440551.S117454551	Sum	hustrafbh, Sum

7.31.11SGSN.Huawei.GPRS.Gb_Mode_Detach

Gb Mode Detach measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
Combined_detach_request_times	ACCUMULATION	INTEGER	Number of MS-initiated requests for combined GPRS/IMSI detachment within the SGSN.	M117440552.S117454614	Sum	hustrafbh, Sum
Detach_accept_message_sent	ACCUMULATION	INTEGER	Number of "detach accept" messages sent to MS.	M117440552.S117454619	Sum	hustrafbh, Sum
Detach_request_times	ACCUMULATION	INTEGER	Number of MS-initiated requests for GPRS detachment within the SGSN.	M117440552.S117454613	Sum	hustrafbh, Sum
HLR_init_detach_request_times	ACCUMULATION	INTEGER	Number of detachment requests due to subscriber deletion by HLR.	M117440552.S117454618	Sum	hustrafbh, Sum
MS_init_IMSI_detach_request_times	ACCUMULATION	INTEGER	Number of MS-initiated requests for IMSI detachment within the SGSN.	M117440552.S117454615	Sum	hustrafbh, Sum

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SGSN_init_detach_request_times	ACCUMULATION	INTEGER	Number of SGSN-initiated requests for GPRS detachment.	M117440552.S117454616	Sum	hustrafbh, Sum
Successful_SGSN_init_detach	ACCUMULATION	INTEGER	Number of SGSN-initiated GPRS detachment successes.	M117440552.S117454617	Sum	hustrafbh, Sum

7.31.12SGSN.Huawei.GPRS.Gb_Mode_Inter_SGSN_RAU

Gb Mode Inter SGSN RAU measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
_%_Com_RAU_success	PERCENTAGE	FLOAT	Percentage of successful combined inter-SGSN RAU updates.	100 * {Com_RAU_success}/ {Com_RAU_request}	Average	Average, hustrafbh
_%_GPRS_attach_success_rate	INTENSITY	FLOAT	Gb mode GPRS attach success rate	M117440554.S127937274	Average	Average, hustrafbh, Maximum, Minimum, Sum
_%_RAU_success	PERCENTAGE	FLOAT	Percentage of inter-SGSN RAU successes within this SGSN area.	100 * {RAU_success}/ {RAU_request}	Average	Average, hustrafbh
_2G_to_2G_RAU_accept	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Number of successful Gb mode inter-	M117440554.S117454860	Sum	hustrafbh, Sum

			SGSN 2G to 2G RAU			
_2G_to_2G_RAU_with_PDP_rej	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Number of rejected Gb mode inter-SGSN 2G to 2G RAU with PDP	M117440554.S117454864	Sum	hustrafbh, Sum
_2G_to_2G_RAU_with_PDP_req	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Number of Gb mode inter-SGSN 2G to 2G RAU with PDP	M117440554.S117454862	Sum	hustrafbh, Sum
_2G_to_2G_RAU_with_PDP_succ	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Number of successful Gb mode inter-SGSN 2G to 2G RAU with PDP	M117440554.S117454863	Sum	hustrafbh, Sum
_2G_to_2G_RAU_without_PDP_rej	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Number of rejected Gb mode inter-SGSN 2G to 2G RAU without PDP	M117440554.S117454867	Sum	hustrafbh, Sum

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_2G_to_2G_RAU_without_PDP_req	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Number of Gb mode inter-SGSN 2G to 2G RAU without PDP request	M117440554.S117454865	Sum	hustrafbh, Sum
_2G_to_2G_RAU_without_PDP_succ	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Number of successful Gb mode inter-SGSN 2G to 2G RAU without PDP	M117440554.S117454866	Sum	hustrafbh, Sum
_3G_to_2G_RAU_accept	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Number of successful Gb mode inter-SGSN 3G to 2G RAU	M117440554.S117454851	Sum	hustrafbh, Sum
_3G_to_2G_RAU_with_PDP_rej	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Number of rejected Gb mode inter-SGSN 3G to 2G RAU with PDP	M117440554.S117454855	Sum	hustrafbh, Sum
_3G_to_2G_RAU_with_PDP_req	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Number of Gb mode inter-	M117440554.S117454853	Sum	hustrafbh, Sum

			SGSN 3G to 2G RAU with PDP request			
_3G_to_2G_RAU_with_PDP_succ	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Number of successful Gb mode inter-SGSN 3G to 2G RAU with PDP	M117440554.S117454854	Sum	hustrafbh, Sum
_3G_to_2G_RAU_without_PDP_rej	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Number of rejected Gb mode inter-SGSN 3G to 2G RAU without PDP	M117440554.S117454858	Sum	hustrafbh, Sum
_3G_to_2G_RAU_without_PDP_req	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Number of Gb mode inter-SGSN 3G to 2G RAU without PDP request	M117440554.S117454856	Sum	hustrafbh, Sum
_3G_to_2G_RAU_without_PDP_succ	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Number of successful Gb mode inter-SGSN 3G to 2G	M117440554.S117454857	Sum	hustrafbh, Sum

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			RAU without PDP			
Com_RAU_reject_Ge_fail	ACCUMULATION	INTEGER	Number of inter-SGSN combined RA/LA update failures due to Ge protocol error.	M117440554.S117454834	Sum	hustrafbh, Sum
Com_RAU_reject_GPRS_not_allowed	ACCUMULATION	INTEGER	Number of inter-SGSN RAU failures due to GPRS service is not allowed in this PLMN.	M117440554.S117454840	Sum	hustrafbh, Sum
Com_RAU_reject_Gr_fail	ACCUMULATION	INTEGER	Number of inter-SGSN combined RA/LA update failures due to Gr protocol error.	M117440554.S117454833	Sum	hustrafbh, Sum
Com_RAU_reject_illegal_ME	ACCUMULATION	INTEGER	Number of inter-SGSN combined RA/LA update failures due to illegal ME.	M117440554.S117454829	Sum	hustrafbh, Sum
Com_RAU_reject_illegal_MS	ACCUMULATION	INTEGER	Number of inter-SGSN combined RA/LA update failures due to illegal mobile station.	M117440554.S117454826	Sum	hustrafbh, Sum
Com_RAU_reject_implicitly_detached	ACCUMULATION	INTEGER	Number of inter-SGSN combined RA/LA update failures due to implicitly	M117440554.S117454831	Sum	hustrafbh, Sum

			detached.			
Com_RAU_reject_LA_not_allowed	ACCUMULATION	INTEGER	Number of inter-SGSN combined RA/LA update failures due to location area not allowed.	M117440554.S117454827	Sum	hustrafbh, Sum
Com_RAU_reject_no_suitable_Cells	ACCUMULATION	INTEGER	Number of inter-SGSN combined RA/LA update failures due to GPRS service is not allowed in this PLMN.	M117440554.S117454841	Sum	hustrafbh, Sum
Com_RAU_reject_protocol_error	ACCUMULATION	INTEGER	Number of inter-SGSN combined RA/LA update failures due to protocol error.	M117440554.S117454832	Sum	hustrafbh, Sum
Com_RAU_reject_roaming_not_allowed	ACCUMULATION	INTEGER	Number of inter-SGSN combined RA/LA update failures due to roaming not allowed in this Location area.	M117440554.S117454828	Sum	hustrafbh, Sum
Com_RAU_reject_srvc_not_allowed	ACCUMULATION	INTEGER	Number of inter-SGSN combined RA/LA update failures due to GPRS service not allowed.	M117440554.S117454830	Sum	hustrafbh, Sum
Com_RAU_req	ACCUMULA	INTEG	Number of	M117440554.S117	Sum	hustrafbh

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uest	TION	ER	inter-SGSN combined RA/LA update requests.	454824		, Sum
Com_RAU_success	ACCUMULATION	INTEGER	Number of successful combined inter-SGSN RAU updates.	M117440554.S117454825	Sum	hustrafbh, Sum
Gb_inter_SG_2G_to_2G_RAU_rej	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Number of rejected Gb mode inter-SGSN 2G to 2G RAU	M117440554.S117454861	Sum	hustrafbh, Sum
Gb_inter_SG_2G_to_2G_RAU_req	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Number of Gb mode inter-SGSN 2G to 2G RAU request	M117440554.S117454859	Sum	hustrafbh, Sum
Gb_inter_SG_3G_to_2G_RAU_rej	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Number of rejected Gb mode inter-SGSN 3G to 2G RAU	M117440554.S117454852	Sum	hustrafbh, Sum
Gb_inter_SG_3G_to_2G_RAU_req	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Number of Gb mode inter-SGSN 3G to 2G RAU request	M117440554.S117454850	Sum	hustrafbh, Sum

Gb_max_inter_SG_Com_RAU_req	INTENSITY	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Maximum number of Gb mode inter-SGSN Com-RAU request	M117440554.S117454846	Average	hustrafbh, Sum, Minimum, Maximum
Gb_max_inter_SG_RAU_req	INTENSITY	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Maximum number of Gb mode inter-SGSN RAU request	M117440554.S117454845	Average	Average, hustrafbh, Maximum, Minimum, Sum
IMSI_Atted_Com_RAU_rej	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Number of rejected Gb mode inter-SGSN IMSI attached Com-RAU	M117440554.S117454849	Sum	hustrafbh, Sum
IMSI_Atted_Com_RAU_req	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Number of Gb mode inter-SGSN IMSI attached Com-RAU request	M117440554.S117454847	Sum	hustrafbh, Sum
IMSI_Atted_Com_RAU_succ	ACCUMULATION	INTEGER	Obsolete from CN-	M117440554.S117454848	Sum	hustrafbh, Sum

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			SGSN/V900R010.C01SPC022: Number of successful Gb mode inter-SGSN IMSI attached Com-RAU			
RAU_accept_LAU_reject_MSC_unreach	ACCUMULATION	INTEGER	Number of times RAU is accepted but LAU fails due to MSC temporarily unreachable in the process of combined inter-SGSN updates.	M117440554.S117454835	Sum	hustrafbh, Sum
RAU_accept_LAU_reject_VLR_reject	ACCUMULATION	INTEGER	Number of times RAU is accepted but LAU fails due to VLR reject in the process of combined inter-SGSN updates.	M117440554.S117454836	Sum	hustrafbh, Sum
RAU_complete_msg_rec	ACCUMULATION	INTEGER	Number of inter-SGSN combined RA/LA update failures due to no suitable Cells in LA.	M117440554.S117454837	Sum	hustrafbh, Sum
RAU_reject_Ge_fail	ACCUMULATION	INTEGER	Number of inter-SGSN RAU failures due to Ge protocol error.	M117440554.S117454823	Sum	hustrafbh, Sum
RAU_reject_GPRS_not_allowed_in_PLMN	ACCUMULATION	INTEGER	Number of inter-SGSN combined RA/LA update requests.	M117440554.S117454838	Sum	hustrafbh, Sum

RAU_reject_GPRS_service_not_allowed	ACCUMULATION	INTEGER	Number of inter-SGSN RAU failures due to GPRS service not allowed.	M117440554.S117454819	Sum	hustrafbh, Sum
RAU_reject_Gr_fail	ACCUMULATION	INTEGER	Number of inter-SGSN RAU failures due to Gr protocol error.	M117440554.S117454822	Sum	hustrafbh, Sum
RAU_reject_illegal_ME	ACCUMULATION	INTEGER	Number of inter-SGSN RAU failures due to illegal ME.	M117440554.S117454818	Sum	hustrafbh, Sum
RAU_reject_illegal_MS	ACCUMULATION	INTEGER	Number of inter-SGSN RAU failures due to illegal mobile station.	M117440554.S117454815	Sum	hustrafbh, Sum
RAU_reject_implicitly_detached	ACCUMULATION	INTEGER	Number of inter-SGSN RAU failures due to implicitly detached.	M117440554.S117454820	Sum	hustrafbh, Sum
RAU_reject_LA_not_allowed	ACCUMULATION	INTEGER	Number of inter-SGSN RAU failures due to location area not allowed.	M117440554.S117454816	Sum	hustrafbh, Sum
RAU_reject_no_suitable_Cells_in_LA	ACCUMULATION	INTEGER	Number of inter-SGSN RAU failures due to roaming not allowed in	M117440554.S117454839	Sum	hustrafbh, Sum

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			this Location area			
RAU_reject_protocol_error	ACCUMULATION	INTEGER	Number of inter-SGSN RAU failures due to protocol error.	M117440554.S117454821	Sum	hustrafbh, Sum
RAU_reject_roaming_not_allowed	ACCUMULATION	INTEGER	Number of inter-SGSN RAU failures due to roaming not allowed in this Location area.	M117440554.S117454817	Sum	hustrafbh, Sum
RAU_request	ACCUMULATION	INTEGER	Number of inter-SGSN RAU requests within the SGSN area.	M117440554.S117454813	Sum	hustrafbh, Sum
RAU_success	ACCUMULATION	INTEGER	Number of inter-SGSN RAU successes within this SGSN area.	M117440554.S117454814	Sum	hustrafbh, Sum
USPU_drop_RAUreq_noPDP_flwctrl	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: USPU drop Inter RAU request without PDP packets of 2G due to flow control	M117440554.S117454844	Sum	hustrafbh, Sum

7.31.13SGSN.Huawei.GPRS.Gb_Mode_Intra_SGSN_RAU

Gb Mode Intra SGSN RAU measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators

_%_Com_RAU_success	PERCENTAGE	FLOAT	Percentage of successful combined intra-SGSN RAU updates.	100 * {Com_RAU_success}/ {Com_RAU_request}	Average	Average, hustrafbh
_%_RAU_success	PERCENTAGE	FLOAT	Percentage of intra-SGSN RAU successes within this SGSN area.	100 * {RAU_success}/ {RAU_request}	Average	Average, hustrafbh
_2G2G_RAU_with_PDP_rej	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Number of rejected Gb mode intra-SGSN 2G to 2G RAU with PDP	M117440553.S117454753	Sum	hustrafbh, Sum
_2G2G_RAU_with_PDP_req	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Number of Gb mode intra-SGSN 2G to 2G RAU with PDP request	M117440553.S117454755	Sum	hustrafbh, Sum
_2G2G_RAU_with_PDP_succ	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Number of successful Gb mode intra-SGSN 2G to 2G RAU with PDP	M117440553.S117454757	Sum	hustrafbh, Sum
_2G2G_RAU_	ACCUMULA	INTEG	Obsolete from	M117440553.S117	Sum	hustrafbh

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without_PDP_rej	TION	ER	CN-SGSN/V900R010.C01SPC022: Number of Gb rejected mode intra-SGSN 2G to 2G RAU without PDP	454754		, Sum
_2G2G_RAU_without_PDP_req	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Number of Gb mode intra-SGSN 2G to 2G RAU without PDP request	M117440553.S117454756	Sum	hustrafbh, Sum
_2G2G_RAU_without_PDP_succ	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Number of successful Gb mode intra-SGSN 2G to 2G RAU without PDP	M117440553.S117454758	Sum	hustrafbh, Sum
Com_RAU_reject_Ge_fail	ACCUMULATION	INTEGER	Number of intra-SGSN combined RA/LA update failures due to Ge protocol error.	M117440553.S117454730	Sum	hustrafbh, Sum
Com_RAU_reject_Gr_fail	ACCUMULATION	INTEGER	Number of intra-SGSN combined RA/LA update failures due to Gr protocol error.	M117440553.S117454729	Sum	hustrafbh, Sum
Com_RAU_reject_illegal_MS	ACCUMULATION	INTEGER	Number of intra-SGSN	M117440553.S117454724	Sum	hustrafbh, Sum

			combined RA/LA update failures due to illegal mobile station.			
Com_RAU_reject_implicitly_detached	ACCUMULATION	INTEGER	Number of intra-SGSN combined RA/LA update failures due to implicitly detached.	M117440553.S117454727	Sum	hustrafbh, Sum
Com_RAU_reject_LA_not_allowed	ACCUMULATION	INTEGER	Number of intra-SGSN combined RA/LA update failures due to location area not allowed.	M117440553.S117454725	Sum	hustrafbh, Sum
Com_RAU_reject_no_suitable_Cells	ACCUMULATION	INTEGER	Number of intra-SGSN combined RA/LA update failures due to roaming not allowed in this Location area.	M117440553.S117454735	Sum	hustrafbh, Sum
Com_RAU_reject_protocol_error	ACCUMULATION	INTEGER	Number of intra-SGSN combined RA/LA update failures due to protocol error.	M117440553.S117454728	Sum	hustrafbh, Sum
Com_RAU_reject_roaming_not_allowed	ACCUMULATION	INTEGER	Number of intra-SGSN combined RA/LA update failures due to	M117440553.S117454726	Sum	hustrafbh, Sum

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			roaming not allowed in this Location area.			
Com_RAU_request	ACCUMULATION	INTEGER	Number of request combined intra-SGSN RAU updates.	M117440553.S117454722	Sum	hustrafbh, Sum
Com_RAU_success	ACCUMULATION	INTEGER	Number of successful combined intra-SGSN RAU updates.	M117440553.S117454723	Sum	hustrafbh, Sum
Gb_max_intraSG_Com_RAU_req	INTENSITY	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Maximum number of Gb mode intra-SGSN Com-RAU request	M117440553.S117454748	Average	Average, hustrafbh, Maximum, Minimum, Sum
Gb_max_intraSG_RAU_req	INTENSITY	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Maximum number of Gb mode intra-SGSN RAU request	M117440553.S117454747	Average	Average, hustrafbh, Maximum, Minimum, Sum
Gb_mode_cell_update_times	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Number of Gb mode cell update	M117440553.S117454749	Sum	hustrafbh, Sum
Gb_mode_Periodic_RAU_reject_Ge_fail	ACCUMULATION	INTEGER	Number of Periodic RAU failures due to Ge protocol	M117440553.S117454744	Sum	hustrafbh, Sum

			error.			
Gb_mode_Periodic_RAU_reject_Gr_fail	ACCUMULATION	INTEGER	Number of Periodic RAU failures due to Gr protocol error.	M117440553.S117454743	Sum	hustrafbh, Sum
Gb_mode_Periodic_RAU_reject_illegal_MS	ACCUMULATION	INTEGER	Number of Periodic RAU failures due to illegal mobile station.	M117440553.S117454738	Sum	hustrafbh, Sum
Gb_mode_Periodic_RAU_reject_implicitly_detached	ACCUMULATION	INTEGER	Number of Periodic RAU failures due to implicitly detached.	M117440553.S117454741	Sum	hustrafbh, Sum
Gb_mode_Periodic_RAU_reject_LA_not_allowed	ACCUMULATION	INTEGER	Number of Periodic RAU failures due to location area not allowed.	M117440553.S117454739	Sum	hustrafbh, Sum
Gb_mode_Periodic_RAU_reject_No_suitable_Cells_in_LA	ACCUMULATION	INTEGER	Number of Periodic RAU failures due to no suitable cells in LA.	M117440553.S117454745	Sum	hustrafbh, Sum
Gb_mode_Periodic_RAU_reject_protocol_error	ACCUMULATION	INTEGER	Number of Periodic failures due to protocol error.	M117440553.S117454742	Sum	hustrafbh, Sum
Gb_mode_Periodic_RAU_reject_roaming_not_allowed_in_LA	ACCUMULATION	INTEGER	Number of Periodic RAU failures due to roaming not allowed in this Location area	M117440553.S117454740	Sum	hustrafbh, Sum

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Gb_mode_Periodic_RAU_request_times	ACCUMULATION	INTEGER	Number of Periodic RAU requests within the SGSN area.	M117440553.S117454736	Sum	hustrafbh, Sum
Gb_mode_Periodic_RAU_success_times	ACCUMULATION	INTEGER	Number of Periodic RAU successes withinThis SGSN area.	M117440553.S117454737	Sum	hustrafbh, Sum
IMSI_Atted_Com_RAU_rej	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Number of rejected Gb mode intra-SGSN IMSI attached Com-RAU	M117440553.S117454752	Sum	hustrafbh, Sum
IMSI_Atted_Com_RAU_succ	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Number of successful Gb mode intra-SGSN IMSI attached Com-RAU	M117440553.S117454751	Sum	hustrafbh, Sum
IMSI_Atted_Com_RAUreq	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Number of Gb mode intra-SGSN IMSI attached Com-RAU request	M117440553.S117454750	Sum	hustrafbh, Sum
RAU_accept_LAU_reject_MSC_unreach	ACCUMULATION	INTEGER	Number of times RAU is accepted but LAU fails due to MSC	M117440553.S117454731	Sum	hustrafbh, Sum

			temporarily unreachable in the process of combined intra-SGSN updates.			
RAU_accept_LAU_reject_VLR_reject	ACCUMULATION	INTEGER	Number of times RAU is accepted but LAU fails due to VLR reject in the process of combined intra-SGSN updates.	M117440553.S117454732	Sum	hustrafbh, Sum
RAU_complete_message_rec	ACCUMULATION	INTEGER	Number of times intra-SGSN RAU is completed .	M117440553.S117454733	Sum	hustrafbh, Sum
RAU_reject_Ge_fail	ACCUMULATION	INTEGER	Number of intra-SGSN RAU failures due to Ge protocol error.	M117440553.S117454721	Sum	hustrafbh, Sum
RAU_reject_Gr_fail	ACCUMULATION	INTEGER	Number of intra-SGSN RAU failures due to Gr protocol error.	M117440553.S117454720	Sum	hustrafbh, Sum
RAU_reject_illegal_MS	ACCUMULATION	INTEGER	Number of intra-SGSN RAU failures due to illegal mobile station.	M117440553.S117454715	Sum	hustrafbh, Sum
RAU_reject_implicitly_detached	ACCUMULATION	INTEGER	Number of intra-SGSN RAU failures due to implicitly detached.	M117440553.S117454718	Sum	hustrafbh, Sum

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RAU_reject_LA_not_allowed	ACCUMULATION	INTEGER	Number of intra-SGSN RAU failures due to location area not allowed.	M117440553.S117454716	Sum	hustrafbh, Sum
RAU_reject_no_suitable_Cells_in_LA	ACCUMULATION	INTEGER	Number of intra-SGSN RAU failures due to no suitable Cells in LA.	M117440553.S117454734	Sum	hustrafbh, Sum
RAU_reject_protocol_error	ACCUMULATION	INTEGER	Number of intra-SGSN RAU failures due to protocol error.	M117440553.S117454719	Sum	hustrafbh, Sum
RAU_reject_roaming_not_allowed	ACCUMULATION	INTEGER	Number of intra-SGSN RAU failures due to roaming not allowed in this Location area.	M117440553.S117454717	Sum	hustrafbh, Sum
RAU_request	ACCUMULATION	INTEGER	Number of intra-SGSN RAU requests within the SGSN area.	M117440553.S117454713	Sum	hustrafbh, Sum
RAU_success	ACCUMULATION	INTEGER	Number of intra-SGSN RAU successes within this SGSN area.	M117440553.S117454714	Sum	hustrafbh, Sum
USPU_drop_RAUreq_noPDP_flwctrl	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: USPU drop Intra RAU request without PDP packets of	M117440553.S117454746	Sum	hustrafbh, Sum

			2G due to flow control			

7.31.14SGSN.Huawei.GPRS.Gb_Mode_L3_MM

Gb Mode L3 MM measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
Attach_Acc_sent_to_foreign_subs	ACCUMULATION	INTEGER	Number of successful attachments within the SGSN by roaming subscribers of external networks .	M117440550.S117454416	Sum	hustrafbh, Sum
Attach_Rej_sent_to_foreign_subs	ACCUMULATION	INTEGER	Number of attachment failures within the SGSN by roaming subscribers of external networks.	M117440550.S117454417	Sum	hustrafbh, Sum
Attach_Req_rec_from_foreign_subs	ACCUMULATION	INTEGER	Number of requests within the SGSN for attachment initiated by roaming subscriber of external networks .	M117440550.S117454415	Sum	hustrafbh, Sum
L3_Message_received	ACCUMULATION	INTEGER	Number of L3 signalling received by	M117440550.S117454413	Sum	hustrafbh, Sum

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			SGSN 3G MM.			
L3_Message_sent	ACCUMULATION	INTEGER	Number of L3 signalling sent by SGSN 3G MM.	M117440550.S117454414	Sum	hustrafbh, Sum
RAU_Acc_sent_to_foreign_subs	ACCUMULATION	INTEGER	Number of successful RAUs by roaming subscribers of external networks within the SGSN.	M117440550.S117454419	Sum	hustrafbh, Sum
RAU_Compl_rec_from_foreign_subs	ACCUMULATION	INTEGER	Number of times SGSN receives the routing area updating complete message from roaming subscribers of external networks.	M117440550.S117454421	Sum	hustrafbh, Sum
RAU_Rej_sent_to_foreign_subs	ACCUMULATION	INTEGER	Number of RAU failures by the roaming subscriber of external networks within the SGSN.	M117440550.S117454420	Sum	hustrafbh, Sum
RAU_Req_rec_from_foreign_subs	ACCUMULATION	INTEGER	Number of requests within the SGSN for RAU by roaming subscribers of external networks.	M117440550.S117454418	Sum	hustrafbh, Sum

7.31.15SGSN.Huawei.GPRS.Gb_Mode_Paging

Gb Mode Paging measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
Circuit_paging_request	ACCUMULATION	INTEGER	Number of circuit pagings delivered by SGSN.	M117440557.S117455113	Sum	hustrafbh, Sum
Pkt_paging_none_response	ACCUMULATION	INTEGER	Number of failed GPRS packet pagings within this SGSN such as paging timeout.	M117440557.S117455117	Sum	hustrafbh, Sum
Pkt_paging_request	ACCUMULATION	INTEGER	Number of attempts of GPRS packet paging within this SGSN, which does not include the re-paging process.	M117440557.S117455116	Sum	hustrafbh, Sum
Resume_request_message_rec	ACCUMULATION	INTEGER	Number of the "resume request" messages received.	M117440557.S117455115	Sum	hustrafbh, Sum
Suspend_request_message_rec	ACCUMULATION	INTEGER	Number of the "suspend request" messages received.	M117440557.S117455114	Sum	hustrafbh, Sum

7.31.16SGSN.Huawei.GPRS.Gb_Mode_PDP_Access_Reject

Gb Mode PDP Access Reject measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregat	Other Aggrega

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					or	tors
High_level_user_PDP_acc_reject	ACCUMULATION	INTEGER	Number of times that the PDP context activation is rejected for high class users in Gb mode.	M117440663.S117465713	Sum	hustrafbh, Sum
Low_level_user_PDP_access_reject	ACCUMULATION	INTEGER	Number of times that the PDP context activation is rejected for low class users in Gb mode.	M117440663.S117465715	Sum	hustrafbh, Sum
Normal_user_PDP_access_reject	ACCUMULATION	INTEGER	Number of times that the PDP context activation is rejected for normal class users in Gb mode.	M117440663.S117465714	Sum	hustrafbh, Sum

7.31.17SGSN.Huawei.GPRS.Gb_mode_PDP_act_EDGE_user

PDP context activate procedures of EDGE user.

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
Gb_mode_MS_init_PDP_context_act_success_times_of_EDGE_user	ACCUMULATION	INTEGER	Number of successful PDP context activate procedures of EDGE user.	M117440679.S117469913	Sum	hustrafbh, Sum
MS_init_PDP_act_succ_EDGE_user	ACCUMULATION	INTEGER	The numbers of successful PDP context activate procedures of EDGE user.	M117440679.S117469914	Sum	hustrafbh, Sum

7.31.18SGSN.Huawei.GPRS.Gb_Mode_PDP_Context_Activation

Gb Mode PDP Context Activation measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
_%_MS_init_IPV4_PDP_ctx_act_suc	PERCENTAGE	FLOAT	Percentage of successful MS-initiated IPv4 PDP context primary activations in a specified BSS	100 * {MS_init_IPV4_PDP_ctx_act_suc}/ {MS_init_IPV4_PDP_ctx_act}	Average	Average, hustrafbh
_%_MS_init_IPV6_PDP_ctx_act_suc	PERCENTAGE	FLOAT	Percentage of successful MS-initiated IPv6 PDP context activations in a specified BSS	100 * {MS_init_IPV6_PDP_ctx_act_suc}/ {MS_init_IPV6_PDP_ctx_act}	Average	Average, hustrafbh
_%_MS_init_PDP_act_suc_with_dynamic_addr	PERCENTAGE	FLOAT	Percentage of successful MS-initiated dynamic PDP context activations in a specified BSS	100 * {MS_init_PDP_act_suc_with_dynamic_addr}/ {MS_init_PDP_act_with_dynamic_addr}	Average	Average, hustrafbh
_%_MS_init_PDP_context_act_success	PERCENTAGE	FLOAT	Percentage of successful MS-initiated PDP context activations in a specified BSS	100 * {MS_init_PDP_context_act_success}/ {MS_init_PDP_context_act}	Average	Average, hustrafbh
_%_Network_init_IPV4_PDP_ctx_act_suc	PERCENTAGE	FLOAT	Percentage of successful MS-initiated IPv4 PDP context network activations in a specified BSS	100 * {Network_init_IPV4_PDP_ctx_act_suc}/ {Network_init_IPV4_PDP_ctx_act}	Average	Average, hustrafbh

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_%_Network_init_IPV6_PDP_ctx_act_suc	PERCENTAGE	FLOAT	Percentage of successful MS-initiated IPv6 PDP context network activations in a specified BSS	100 * {Network_init_IPV6_PDP_ctx_act_suc}/ {Network_init_IPV6_PDP_ctx_act}	Average	Average, hustrafbh
_%_Network_init_PDP_context_act_suc	PERCENTAGE	FLOAT	Percentage of successful MS-initiated PDP context network activations in a specified BSS	100 * {Network_init_PDP_context_act_suc}/ {Network_init_PDP_context_act}	Average	Average, hustrafbh
_%_Secondary_IPV4_PDP_ctx_act_suc	PERCENTAGE	FLOAT	Number of successful secondary IPv4 PDP context activations in a specified BSS.	100 * {Secondary_IPV4_PDP_ctx_act_suc}/ {Secondary_IPV4_PDP_ctx_act}	Average	Average, hustrafbh
_%_Secondary_IPV6_PDP_ctx_act_suc	PERCENTAGE	FLOAT	Percentage of successful secondary IPv6 PDP context activations in a specified BSS.	100 * {Secondary_IPV6_PDP_ctx_act_suc}/ {Secondary_IPV6_PDP_ctx_act}	Average	Average, hustrafbh
_%_Secondary_PDP_context_act_suc	PERCENTAGE	FLOAT	Percentage of successful secondary PDP context activations in a specified BSS.	100 * {Secondary_PDP_context_act_suc}/ {Secondary_PDP_context_act}	Average	Average, hustrafbh
Foreign_subs_act_PDP_context_acc	ACCUMULATION	INTEGER	Number of foreign MS initiated PDP context activation successes (including first and secondary activation).	M117440591.S117458536	Sum	hustrafbh, Sum
Foreign_subs_ac	ACCUMULA	INTEG	Number of	M117440591.S117	Sum	hustrafbh

t_PDP_context_reject	TION	ER	foreign MS initiated PDP context activation failures (including first and secondary activation).	458537		, Sum
Foreign_subs_act_PDP_context_req	ACCUMULATION	INTEGER	Number of foreign MS initiated PDP context activation attempts (including first and secondary activation).	M117440591.S117458535	Sum	hustrafbh, Sum
Gb_max_MS_init_PDP_context_act	INTENSITY	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022 :Maximum number of Gb mode MS init PDP context act	M117440591.S117458576	Average	Average, hustrafbh, Maximum, Minimum, Sum
Gb_mode_MS_init_PDP_context_Max_act_time_delay	INTENSITY	INTEGER	Maximum MS initiated primary PDP context activation duration in Gb mode.	M117440591.S117458561	Average	Average, hustrafbh, Maximum, Minimum, Sum
Gb_mode_MS_init_PDP_context_Mean_act_time_delay	INTENSITY	FLOAT	Average primary MS activated PDP context establishment duration in Gb mode.	M117440591.S117458562	Average	Average, hustrafbh, Maximum, Minimum, Sum

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Gb_mode_Ms_PDP_Context_act_complete_Total_times	ACCUMULATION	INTEGER	Number of successful primary PDP context activations initiated by MSs.	M117440591.S117458563	Sum	hustrafbh, Sum
Gb_mode_Ms_PDP_Context_Total_act_time_delay	ACCUMULATION	INTEGER	Total duration of the MS initiated 2G PDP context activations in the measurement period.	M117440591.S117458564	Sum	hustrafbh, Sum
Gb_PDP_act_fail_APN_Restrict	ACCUMULATION	INTEGER	Number of PDP context activation failures due to APN Restriction	M117440591.S117458565	Sum	hustrafbh, Sum
MS_init_IPV4_PDP_ctx_act_reject	ACCUMULATION	INTEGER	Number of rejected MS-initiated IPv4 PDP context activations.	M117440591.S117458558	Sum	hustrafbh, Sum
MS_init_IPV4_PDP_ctx_act_suc	ACCUMULATION	INTEGER	Number of successful MS-initiated IPv4 PDP context primary activations in a specified BSS	M117440591.S117458545	Sum	hustrafbh, Sum
MS_init_IPV4_PDP_ctx_act	ACCUMULATION	INTEGER	Number of MS-initiated IPv4 PDP context primary activation attempts in a specified BSS	M117440591.S117458544	Sum	hustrafbh, Sum
MS_init_IPV6_PDP_ctx_act_rej	ACCUMULATION	INTEGER	Number of rejected MS-	M117440591.S117458559	Sum	hustrafbh, Sum

ect			initiated IPv6 PDP context activations.			
MS_init_IPV6_PDP_ctx_act_suc	ACCUMULATION	INTEGER	Number of successful MS initiated IPv6 PDP context activations in a specified BSS	M117440591.S117458551	Sum	hustrafbh, Sum
MS_init_IPV6_PDP_ctx_act	ACCUMULATION	INTEGER	Number of MS-initiated IPv6 PDP context activation attempts in a specified BSS	M117440591.S117458550	Sum	hustrafbh, Sum
MS_init_PDP_act_rej_w_dynamic_addr	ACCUMULATION	INTEGER	Number of reject of MS-initiated PDP context activation using dynamic PDP address.	M117440591.S117458560	Sum	hustrafbh, Sum
MS_init_PDP_act_suc_with_dynamic_addr	ACCUMULATION	INTEGER	Number of successful MS-initiated dynamic PDP context activations in a specified BSS	M117440591.S117458518	Sum	hustrafbh, Sum
MS_init_PDP_act_with_dynamic_addr	ACCUMULATION	INTEGER	Number of MS-initiated PDP context activation requests using dynamic address in a specified BSS.	M117440591.S117458517	Sum	hustrafbh, Sum
MS_init_PDP_c	ACCUMULA	INTEG	Number of	M117440591.S117	Sum	hustrafbh

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ontext_act_success	TION	ER	successful MS-initiated PDP context activations in a specified BSS	458514		, Sum
MS_init_PDP_context_act	ACCUMULATION	INTEGER	Number of MS-initiated PDP context activation attempts in a specified BSS	M117440591.S117458513	Sum	hustrafbh, Sum
Network_init_IPV4_PDP_ctx_act_suc	ACCUMULATION	INTEGER	Number of successful MS-initiated IPv4 PDP context network activations in a specified BSS	M117440591.S117458547	Sum	hustrafbh, Sum
Network_init_IPV4_PDP_ctx_act	ACCUMULATION	INTEGER	Number of MS-initiated IPv4 PDP context network activation attempts in a specified BSS	M117440591.S117458546	Sum	hustrafbh, Sum
Network_init_IPV6_PDP_ctx_act_suc	ACCUMULATION	INTEGER	Number of successful MS-initiated IPv6 PDP context network activations in a specified BSS	M117440591.S117458553	Sum	hustrafbh, Sum
Network_init_IPV6_PDP_ctx_act	ACCUMULATION	INTEGER	Number of MS-initiated IPv6 PDP context network activation attempts in a specified BSS	M117440591.S117458552	Sum	hustrafbh, Sum
Network_init_PDP_context_act_suc	ACCUMULATION	INTEGER	Number of successful MS-initiated PDP	M117440591.S117458516	Sum	hustrafbh, Sum

			context network activations in a specified BSS			
Network_init_PDP_context_act	ACCUMULATION	INTEGER	Number of MS-initiated PDP context network activation attempts in a specified BSS	M117440591.S117458515	Sum	hustrafbh, Sum
PDP_context_fail_DNS_reso_fail	ACCUMULATION	INTEGER	Number of activation failures in a specified BSS (due to DNS resolution failure).	M117440591.S117458523	Sum	hustrafbh, Sum
PDP_context_fail_due_PDP_type	ACCUMULATION	INTEGER	Number of activation failures in a specified BSS (due to unknown PDP address or type).	M117440591.S117458525	Sum	hustrafbh, Sum
PDP_context_fail_Ge_fail	ACCUMULATION	INTEGER	Number of activation failures in a specified BSS (due to Ge interface failure).	M117440591.S117458529	Sum	hustrafbh, Sum
PDP_context_fail_GGSN_reject	ACCUMULATION	INTEGER	Number of activation failures in a specified BSS (due to GGSN reject).	M117440591.S117458521	Sum	hustrafbh, Sum

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PDP_context_fail_insuff_res	ACCUMULATION	INTEGER	Number of activation failures in a specified BSS (due to insufficient network resource).	M117440591.S117458522	Sum	hustrafbh, Sum
PDP_context_fail_missing_APN	ACCUMULATION	INTEGER	Number of activation failures in a specified BSS (due to unknown APN).	M117440591.S117458524	Sum	hustrafbh, Sum
PDP_context_fail_QoS_nego_fail	ACCUMULATION	INTEGER	Number of activation failures in a specified BSS (due to QoS negotiation failure).	M117440591.S117458520	Sum	hustrafbh, Sum
PDP_context_fail_srvc_unsubscribed	ACCUMULATION	INTEGER	Number of activation failures in a specified BSS (due to unsubscribed service).	M117440591.S117458528	Sum	hustrafbh, Sum
PDP_context_fail_srvc_unsupported	ACCUMULATION	INTEGER	Number of activation failures in a specified BSS (due to services not supported by the system).	M117440591.S117458527	Sum	hustrafbh, Sum
PDP_context_fail_user_auth_fail	ACCUMULATION	INTEGER	Number of activation failures in a specified BSS (due to subscriber authentication failure).	M117440591.S117458526	Sum	hustrafbh, Sum

PDP_context_reject	ACCUMULATION	INTEGER	Number of activation rejects in a specified BSS.	M117440591.S117458519	Sum	hustrafbh, Sum
PDP_context_sec_act_reject	ACCUMULATION	INTEGER	Number of secondary PDP context activation rejects in a specified BSS.	M117440591.S117458530	Sum	hustrafbh, Sum
PDP_context_sec_fail_Ge_fail	ACCUMULATION	INTEGER	Number of secondary PDP context activation failures in a specified BSS (due to Ge interface failure).	M117440591.S117458534	Sum	hustrafbh, Sum
PDP_context_sec_fail_GGSN_reject	ACCUMULATION	INTEGER	Number of secondary PDP context activation failures in a specified BSS (due to GGSN reject).	M117440591.S117458532	Sum	hustrafbh, Sum
PDP_context_sec_fail_net_res_insuff	ACCUMULATION	INTEGER	Number of secondary PDP context activation failures in a specified BSS (due to insufficient network resource).	M117440591.S117458531	Sum	hustrafbh, Sum
PDP_context_se	ACCUMULA	INTEG	Number of	M117440591.S117	Sum	hustrafbh

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c_fail_unknown_PDP	TION	ER	secondary PDP context activation failures in a specified BSS (due to unknown PDP context)	458533		, Sum
PDP_ctx_act_fail_Op_Det_Bar	ACCUMULATION	INTEGER	Number of activation failures (due to ODB).	M117440591.S117458542	Sum	hustrafbh, Sum
PDP_ctx_act_fail_Unspecific_reason	ACCUMULATION	INTEGER	2G PDP ctx act fail (Unspecified Reason) in BSS.	M117440591.S117458556	Sum	hustrafbh, Sum
PDP_ctx_sec_act_fail_No_Reason	ACCUMULATION	INTEGER	2G PDP ctx sec act fail (Unspecified Reason) in BSS.	M117440591.S117458557	Sum	hustrafbh, Sum
PDP_ctx_sec_act_fail_Op_Det_Bar	ACCUMULATION	INTEGER	Number of secondary PDP context activation failures (due to ODB).	M117440591.S117458543	Sum	hustrafbh, Sum
PDP_ctx_sec_act_fail_Ugbi_PDP_Cong	ACCUMULATION	INTEGER	Number of secondary PDP context activation failures in a specified BSS (due to PDP congestion of UGBI)	M117440591.S117458541	Sum	hustrafbh, Sum
PDP_ctx_sec_fail_Ugbi_PDP_Cong	ACCUMULATION	INTEGER	Number of activation failures (due to UGBI and PDP congestion).	M117440591.S117458540	Sum	hustrafbh, Sum

Secondary_IPV4_PDP_ctx_act_suc	ACCUMULATION	INTEGER	Number of successful secondary IPv4 PDP context activations in a specified BSS.	M117440591.S117458549	Sum	hustrafbh, Sum
Secondary_IPV4_PDP_ctx_act	ACCUMULATION	INTEGER	Number of secondary IPv4 PDP context activation requests in a specified BSS.	M117440591.S117458548	Sum	hustrafbh, Sum
Secondary_IPV6_PDP_ctx_act_suc	ACCUMULATION	INTEGER	Number of successful secondary IPv6 PDP context activations in a specified BSS.	M117440591.S117458555	Sum	hustrafbh, Sum
Secondary_IPV6_PDP_ctx_act	ACCUMULATION	INTEGER	Number of secondary IPv6 PDP context activation requests in a specified BSS.	M117440591.S117458554	Sum	hustrafbh, Sum
Secondary_PDP_context_act_suc	ACCUMULATION	INTEGER	Number of successful secondary PDP context activations in a specified BSS.	M117440591.S117458539	Sum	hustrafbh, Sum
Secondary_PDP_context_act	ACCUMULATION	INTEGER	Number of secondary PDP context activation requests in a specified BSS.	M117440591.S117458538	Sum	hustrafbh, Sum
USPU_drop_PDP_act_req_flwct	ACCUMULATION	INTEGER	Obsolete from CN-	M117440591.S117458574	Sum	hustrafbh, Sum

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rl			SGSN/V900R010.C01SPC022:USPU drop PDP activation request packets of 2G due to flow control			

7.31.19SGSN.Huawei.GPRS.Gb_Mode_PDP_Context_Deactivation

Gb Mode PDP Context Deactivation measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
_%_GGSN_init_PDP_context_deact_success	PERCENTAGE	FLOAT	Percentage of successes of GGSN-initiated PDP context deactivation.	100 * {GGSN_init_PDP_context_deact_success}/ {GGSN_init_PDP_context_deact}	Average	Average, hustrafbh
_%_MS_init_PDP_context_deact_success	PERCENTAGE	FLOAT	Percentage of successes of MS-initiated PDP context deactivation.	100 * {MS_init_PDP_context_deact_success}/ {MS_init_PDP_context_deact}	Average	Average, hustrafbh
_%_SGSN_init_PDP_context_deact_success	PERCENTAGE	FLOAT	Percentage of successes of SGSN-initiated PDP context deactivation.	100 * {SGSN_init_PDP_context_deact_success}/ {SGSN_init_PDP_context_deact}	Average	Average, hustrafbh
Gb_max_MS_init_PDP_deact	INTENSITY	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Maximum number of Gb mode MS init PDP context deact	M117440592.S117458619	Average	Average, hustrafbh, Maximum, Minimum, Sum

GGSN_init_PDP_context_deact_success	ACCUMULATION	INTEGER	Number of successes of GGSN-initiated PDP context deactivation.	M117440592.S117458616	Sum	hustrafbh, Sum
GGSN_init_PDP_context_deact	ACCUMULATION	INTEGER	Number of GGSN-initiated requests for PDP context deactivation.	M117440592.S117458615	Sum	hustrafbh, Sum
MS_init_PDP_context_deact_success	ACCUMULATION	INTEGER	Number of successes of MS-initiated PDP context deactivation.	M117440592.S117458614	Sum	hustrafbh, Sum
MS_init_PDP_context_deact	ACCUMULATION	INTEGER	Number of MS-initiated requests for PDP context deactivation	M117440592.S117458613	Sum	hustrafbh, Sum
SGSN_init_PDP_context_deact_success	ACCUMULATION	INTEGER	Number of successes of SGSN-initiated PDP context deactivation.	M117440592.S117458618	Sum	hustrafbh, Sum
SGSN_init_PDP_context_deact	ACCUMULATION	INTEGER	Number of SGSN-initiated requests for PDP context deactivation.	M117440592.S117458617	Sum	hustrafbh, Sum

7.31.20SGSN.Huawei.GPRS.Gb_Mode_PDP_Context_Modification

Gb Mode PDP Context Modification measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators

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Gb_mode_SGSN_modify_PDP_context_request	ACCUMULATION	INTEGER	Number of Modify PDP Context Request message sent by SGSN to MS.	M117440593.S117458719	Sum	hustrafbh, Sum
Gb_mode_SGSN_modify_PDP_context_success	ACCUMULATION	INTEGER	Number of Modify PDP context accept message received by SGSN from MS.	M117440593.S117458720	Sum	hustrafbh, Sum
Gb_mode_SGSN_update_PDP_context_request	ACCUMULATION	INTEGER	Number of Update PDP Context Request message sent by SGSN to GGSN.	M117440593.S117458721	Sum	hustrafbh, Sum
Gb_mode_SGSN_update_PDP_context_success	ACCUMULATION	INTEGER	Number of Update PDP Context Response message with cause of "Request Accepted" received by SGSN from MS.	M117440593.S117458722	Sum	hustrafbh, Sum
GGSN_init_PDP_context_modify_suc	ACCUMULATION	INTEGER	Number of successes of GGSN-initiated requests for PDP context modification.	M117440593.S117458718	Sum	hustrafbh, Sum
GGSN_init_PDP_context_modify	ACCUMULATION	INTEGER	Number of GGSN-initiated requests for PDP context modification.	M117440593.S117458717	Sum	hustrafbh, Sum
MS_init_PDP_context_modi	ACCUMULATION	INTEGER	Number of successes of	M117440593.S117458716	Sum	hustrafbh, Sum

fy_suc			MS-initiated requests for PDP context modification.			
MS_init_PDP_context_modify	ACCUMULATION	INTEGER	Number of MS-initiated requests for PDP context modification.	M117440593.S117458715	Sum	hustrafbh, Sum
SGSN_init_PDP_context_modify_suc	ACCUMULATION	INTEGER	Number of successes of SGSN-initiated PDP context modification	M117440593.S117458714	Sum	hustrafbh, Sum
SGSN_init_PDP_context_modify	ACCUMULATION	INTEGER	Number of SGSN-initiated requests for PDP context modification.	M117440593.S117458713	Sum	hustrafbh, Sum

7.31.21SGSN.Huawei.GPRS.Gb_Mode_Radio_Resource

Gb Mode Radio Resource measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
Att_avg_SIM_user_number	INTENSITY	FLOAT	Obsolete from CN-SGSN/V900R010.C01SPC022:Average number of Gb mode attached SIM user	M117440556.S117455034	Average	Average, hustrafbh, Maximum, Minimum, Sum
Att_avg_USIM_user_number	INTENSITY	FLOAT	Obsolete from CN-SGSN/V900R01	M117440556.S117455035	Average	Average, hustrafbh,

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			0.C01SPC022:Average number of Gb mode attached USIM user			Maximum, Minimum, Sum
Average_users_at_READY_status	INTENSITY	FLOAT	The average number of subscribers in the "READY" status within the SGSN area.	M117440556.S117455017	Average	Average, hustrafbh, Maximum, Minimum, Sum
Average_users_at_STANDBY_status	INTENSITY	FLOAT	The average number of subscribers in the "STANDBY" status within the SGSN area	M117440556.S117455014	Average	Average, hustrafbh, Maximum, Minimum, Sum
Avg_Att_user_connectPLMN	INTENSITY	INTEGER	The arithmetical mean of the number of attached subscribers of connect PLMN within this SGSN.	M117440556.S117455031	Average	Average, hustrafbh, Maximum, Minimum, Sum
Avg_Att_user_homePLMN	INTENSITY	INTEGER	The arithmetical mean of the number of attached subscribers of home PLMN within this SGSN	M117440556.S117455028	Average	Average, hustrafbh, Maximum, Minimum, Sum
Gb_mode_average_attach_duration	INTENSITY	INTEGER	Mean attaching duration of 2G users within the measurement period.	M117440556.S117455024	Average	Average, hustrafbh, Maximum, Minimum, Sum

Gb_mode_average_attached_users	INTENSITY	INTEGER	The arithmetical mean of the number of attached subscribers within this SGSN.	M117440556.S117455020	Average	Average, hustrafbh, Maximum, Minimum, Sum
Gb_mode_max_attached_users	INTENSITY	INTEGER	The recorded maximum value of the number of attached subscribers within this SGSN.	M117440556.S117455021	Average	Average, hustrafbh, Maximum, Minimum, Sum
Gb_mode_new_attach_success_times	INTENSITY	INTEGER	Number of successful GPRS attachment procedures.	M117440556.S117455023	Average	Average, hustrafbh, Maximum, Minimum, Sum
Gb_mode_realtime_attached_users	INTENSITY	INTEGER	The realtime number of 2G attached subscribers within this SGSN.	M117440556.S117455019	Average	Average, hustrafbh, Maximum, Minimum, Sum
Gb_mode_total_attach_duration	INTENSITY	INTEGER	Total attached time length of the 2G subscribers in the measuring period.	M117440556.S117455022	Average	Average, hustrafbh, Maximum, Minimum, Sum
Max_Att_user_connectPLMN	INTENSITY	INTEGER	The recorded maximum value of the number of	M117440556.S117455032	Average	Average, hustrafbh,

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			attached subscribers of connect PLMN withinThis SGSN.			Maximum, Minimum, Sum
Max_Att_user_homePLMN	INTENSITY	INTEGER	The recorded maximum value of the number of attached subscribers of home PLMN withinThis SGSN.	M117440556.S117455029	Average	Average, hustrafbh, Maximum, Minimum, Sum
Max_users_at_READY_status	INTENSITY	INTEGER	The recorded maximum number of subscribers in the "READY" status within the SGSN area.	M117440556.S117455018	Average	Average, hustrafbh, Maximum, Minimum, Sum
Max_users_at_STANDBY_status	INTENSITY	INTEGER	The recorded maximum number of subscribers at in the "STANDBY" status within the SGSN area.	M117440556.S117455015	Average	Average, hustrafbh, Maximum, Minimum, Sum
Number_subs_using_GEA1_encryption	INTENSITY	INTEGER	Number of subscribers that use GEA1 encryption	M117440556.S117455025	Average	Average, hustrafbh, Maximum, Minimum, Sum
Number_subs_using_GEA2_encryption	INTENSITY	INTEGER	Number of subscribers that use GEA2 encryption	M117440556.S117455026	Average	Average, hustrafbh, Maximum, Minimum, Sum

Realtime_Att_user_connectPLMN	INTENSITY	INTEGER	The real-time number of 2G attached subscribers of connect PLMN within this SGSN.	M117440556.S117455030	Average	Average, hustrafbh, Maximum, Minimum, Sum
Realtime_Att_user_homePLMN	INTENSITY	INTEGER	The real-time number of 2G attached subscribers of home PLMN within this SGSN	M117440556.S117455027	Average	Average, hustrafbh, Maximum, Minimum, Sum
Realtime_users_at_READY_status	INTENSITY	INTEGER	The realtime number of subscribers in the "READY" status within the SGSN area.	M117440556.S117455016	Average	Average, hustrafbh, Maximum, Minimum, Sum
Realtime_users_at_STANDBY_status	INTENSITY	INTEGER	The realtime number of subscribers in the "STANDBY" status within the SGSN area.	M117440556.S117455013	Average	Average, hustrafbh, Maximum, Minimum, Sum
Subs_using_GEA3_encryption	INTENSITY	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022:the number of subscribers using GEA3 encryption	M117440556.S117455036	Average	Average, hustrafbh, Maximum, Minimum, Sum

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7.31.22SGSN.Huawei.GPRS.Gb_Mode_Security

Gb Mode Security measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
_%_Authentication_success	PERCENTAGE	FLOAT	Percentage of successful authentications within this SGSN.	100 * {Authentication_success}/ {Authentication_request}	Average	Average, hustrafbh
_%_Identity_success	PERCENTAGE	FLOAT	Percentage of successful identification processes initiated by this SGSN.	100 * {Identity_success}/ {Identity_request}	Average	Average, hustrafbh
_%_IMEI_check_response	PERCENTAGE	FLOAT	Percentage of successful IMEI check processes initiated by this SGSN.	100 * {IMEI_check_response}/ {IMEI_check_request}	Average	Average, hustrafbh
_%_P_TMSI_reallocation_success	PERCENTAGE	FLOAT	Percentage of successfully executed P-TMSI reallocation processes within this SGSN.	100 * {P_TMSI_reallocation_success}/ {P_TMSI_reallocation_request}	Average	Average, hustrafbh
_%_Security_mode_control_success	PERCENTAGE	FLOAT	Percentage of successful ciphering mode control procedures initiated by this SGSN.	100 * {Security_mode_control_success}/ {Security_mode_control_request}	Average	Average, hustrafbh
Auth_and_cypher_reject	ACCUMULATION	INTEGER	Number of "AUTHENTICATION AND CIPHERING REJECT" messages sent.	M117440555.S117454924	Sum	hustrafbh, Sum
Auth_and_cyph	ACCUMULA	INTEG	Number of	M117440555.S1	Sum	hustrafbh

er_response	TION	ER	"AUTHENTICATION AND CIPHERING RESPONSE" messages received.	17454923		, Sum
Authentication_request	ACCUMULATION	INTEGER	Number of authentications started within this SGSN.	M117440555.S117454915	Sum	hustrafbh, Sum
Authentication_success	ACCUMULATION	INTEGER	Number of successful authentications within this SGSN.	M117440555.S117454916	Sum	hustrafbh, Sum
Gb_mode_SIM_authentication_request_times	ACCUMULATION	INTEGER	Number of authentications started withinThis SGSN.	M117440555.S117454925	Sum	hustrafbh, Sum
Gb_mode_SIM_authentication_success_times	ACCUMULATION	INTEGER	Number of successful authentications withinThis SGSN.	M117440555.S117454926	Sum	hustrafbh, Sum
Gb_mode_USIM_authentication_request_times	ACCUMULATION	INTEGER	Number of authentications started withinThis SGSN.	M117440555.S117454927	Sum	hustrafbh, Sum
Gb_mode_USIM_authentication_success_times	ACCUMULATION	INTEGER	Number of successful authentications withinThis SGSN.	M117440555.S117454928	Sum	hustrafbh, Sum
Identity_req_IMEI_IMEISV	ACCUMULATION	INTEGER	Number of requests for identification initiated by this SGSN(with IMEI	M117440555.S117454929	Sum	hustrafbh, Sum

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			or IMEISV).			
Identity_request	ACCUMULATION	INTEGER	Number of requests for identification initiated by this SGSN.	M117440555.S117454917	Sum	hustrafbh, Sum
Identity_succ_IMEI_IMEISV	ACCUMULATION	INTEGER	Number of successful identification processes initiated by this SGSN(with IMEI or IMEISV).	M117440555.S117454930	Sum	hustrafbh, Sum
Identity_success	ACCUMULATION	INTEGER	Number of successful identification processes initiated by this SGSN.	M117440555.S117454918	Sum	hustrafbh, Sum
IMEI_check_request	ACCUMULATION	INTEGER	Number of IMEI check processes initiated by this SGSN.	M117440555.S117454921	Sum	hustrafbh, Sum
IMEI_check_response	ACCUMULATION	INTEGER	Number of successful IMEI check processes initiated by this SGSN.	M117440555.S117454922	Sum	hustrafbh, Sum
P_TMSI_reallocation_request	ACCUMULATION	INTEGER	Number of requests for P-TMSI reallocation displayed within this SGSN or included in the location update process.	M117440555.S117454913	Sum	hustrafbh, Sum
P_TMSI_reallocation_success	ACCUMULATION	INTEGER	Number of successfully executed P-TMSI reallocation	M117440555.S117454914	Sum	hustrafbh, Sum

			processes within this SGSN.			
Security_mode_control_request	ACCUMULATION	INTEGER	Number of requests for ciphering mode control initiated by this SGSN.	M117440555.S117454919	Sum	hustrafbh, Sum
Security_mode_control_success	ACCUMULATION	INTEGER	Number of successful ciphering mode control procedures initiated by this SGSN.	M117440555.S117454920	Sum	hustrafbh, Sum

7.31.23SGSN.Huawei.GPRS.Gb_Mode_Service_Handover

Gb Mode Service Handover measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
HO_to_WCDMA_shall_not_be_performed	ACCUMULATION	INTEGER	Number of Gb service handovers that the result is "shall not be" handed over to 3G UNTRAN.	M117440659.S117465315	Sum	hustrafbh, Sum
HO_to_WCDMA_should_be_performed	ACCUMULATION	INTEGER	Number of Gb service handovers that the result is "should be" handed over to 3G UNTRAN.	M117440659.S117465313	Sum	hustrafbh, Sum
HO_to_WCDMA_should_no	ACCUMULATION	INTEGER	Number of Gb service	M117440659.S117465314	Sum	hustrafbh, Sum

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t_be_performed			handovers that the result is "should not be" handed over to 3G UNTRAN.			

7.31.24SGSN.Huawei.GPRS.Gb_Mode_SM_L3

Gb Mode SM L3 measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
L3_SM_msg_rec	ACCUMULATION	INTEGER	Number of L3 signalling received by SGSN 2G SM.	M117440594.S117458813	Sum	hustrafbh, Sum
L3_SM_msg_sent	ACCUMULATION	INTEGER	Number of L3 signalling sent by SGSN 2G SM.	M117440594.S117458814	Sum	hustrafbh, Sum

7.31.25SGSN.Huawei.GPRS.Gb_Mode_SM_Resource

Gb Mode SM Resource measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
Act_PDP_context_success	INTENSITY	INTEGER	Number of successful 3G PDP contexts activation.	M117440595.S117458920	Average	Average, hustrafbh, Maximum, Minimum, Sum
Ave_act_PDP_Sessions_background	INTENSITY	INTEGER	The arithmetical mean of active PDP contexts for QoS class Background.	M117440595.S117458925	Average	Average, hustrafbh, Maximum, Minimum, Sum

Ave_act_PDP_Sessions_conversation	INTENSITY	INTEGER	The arithmetical mean of active PDP contexts for QoS class Conversation.	M117440595.S117458923	Average	Average, hustrafbh, Maximum, Minimum, Sum
Ave_act_PDP_Sessions_interactive	INTENSITY	INTEGER	The arithmetical mean of active PDP contexts for QoS class Interactive.	M117440595.S117458922	Average	Average, hustrafbh, Maximum, Minimum, Sum
Ave_act_PDP_Sessions_streaming	INTENSITY	INTEGER	The arithmetical mean of active PDP contexts for QoS class Streaming.	M117440595.S117458924	Average	Average, hustrafbh, Maximum, Minimum, Sum
Average_act_PDP_context	INTENSITY	INTEGER	The maximum recorded number of active PDP contexts .	M117440595.S117458917	Average	Average, hustrafbh, Maximum, Minimum, Sum
Average_PDP_act_duration	INTENSITY	INTEGER	Mean activation duration of 3G sessions within the measurement period.	M117440595.S117458921	Average	Average, hustrafbh, Maximum, Minimum, Sum
Average_users_with_act_PDP_context	INTENSITY	INTEGER	The arithmetical mean of mobile users with PDP	M117440595.S117458914	Average	Average, hustrafbh,

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			context activated (i.e. the users are able to transmit/receive GPRS packet data).			Maximum, Minimum, Sum
Avg_user_with_PDP_onnectPLMN	INTENSITY	INTEGER	The arithmetical mean number of connect PLMN subscribers with activated PDP context.	M117440595.S117458927	Average	Average, hustrafbh, Maximum, Minimum, Sum
Gb_avg_act_PDP_of_connectPLMN	INTENSITY	INTEGER	The arithmetical mean of connect PLMN active PDP contexts.	M117440595.S117458930	Average	Average, hustrafbh, Maximum, Minimum, Sum
Gb_max_act_PDP_of_connectPLMN	INTENSITY	INTEGER	The maximum recorded number of connect PLMN active PDP contexts.	M117440595.S117458931	Average	Average, hustrafbh, Maximum, Minimum, Sum
Max_act_PDP_context	INTENSITY	INTEGER	Maximum recorded number of the active PDP contexts.	M117440595.S117458918	Average	Average, hustrafbh, Maximum, Minimum, Sum
Max_user_with_PDP_connectPLMN	INTENSITY	INTEGER	The maximum recorded number of connect PLMN subscribers with activated PDP context.	M117440595.S117458928	Average	Average, hustrafbh, Maximum, Minimum, Sum
Max_users_with	INTENSI	INTEG	The maximum	M117440595.S1174	Average	Average,

_act_PDP_context	TY	ER	recorded number of mobile users with PDP context activated (i.e. the users are able to transmit/receive GPRS packet data).	58915		hustrafbh, Maximum, Minimum, Sum
Realtime_act_PDP_connectPLMN	INTENSITY	INTEGER	The real-time number of connect PLMN activated PDP contexts	M117440595.S117458929	Average	Average, hustrafbh, Maximum, Minimum, Sum
Realtime_act_PDP_context	INTENSITY	INTEGER	The arithmetical mean of active PDP contexts.	M117440595.S117458916	Average	Average, hustrafbh, Maximum, Minimum, Sum
Realtime_user_PDP_connectPLMN	INTENSITY	INTEGER	The real-time number of connect PLMN subscribers with activated PDP context.	M117440595.S117458926	Average	Average, hustrafbh, Maximum, Minimum, Sum
Realtime_users_with_act_PDP_context	INTENSITY	INTEGER	Real-time number of subscribers with activated PDP context withinThis SGSN.	M117440595.S117458913	Average	Average, hustrafbh, Maximum, Minimum, Sum
Total_PDP_act_d	INTENSI	INTEG	Total number of	M117440595.S1174	Average	Average,

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uration	TY	ER	2G sessions ever activated within the measurement period.	58919		hustrafbh, Maximum, Minimum, Sum

7.31.26SGSN.Huawei.GPRS.Gb_Mode_User_Access_Reject

Gb Mode User Access Reject measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
High_level_user_access_reject	ACCUMULATION	INTEGER	Number of times that the PDP context activation is rejected for high class users in Gb mode.	M117440661.S117465513	Sum	hustrafbh, Sum
Low_level_user_access_reject	ACCUMULATION	INTEGER	Number of times that the PDP context activation is rejected for low class users in Gb mode.	M117440661.S117465515	Sum	hustrafbh, Sum
Normal_user_access_reject	ACCUMULATION	INTEGER	Number of times that the PDP context activation is rejected for normal class users in Gb mode.	M117440661.S117465514	Sum	hustrafbh, Sum

7.31.27SGSN.Huawei.GPRS.GTP_Bearer

GTP Bearer measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators

GTP_C_path_down	ACCUMULATION	INTEGER	Number of GTP path interrupts.	M117440528.S117452213	Sum	hustrafbh, Sum
GTP_C_path_numbers	INTENSITY	FLOAT	The average number of GTP-C path.	M117440528.S117452215	Average	Average, hustrafbh, Maximum, Minimum, Sum
GTP_C_peer_restart	ACCUMULATION	INTEGER	Number of the peer end of GTP path restarts.	M117440528.S117452214	Sum	hustrafbh, Sum

7.31.28SGSN.Huawei.GPRS.GTP_Message_Processing

GTP Message Processing measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
_%_Session_Update_Request_success_rec	PERCENTAGE	FLOAT	Percentage of session update acknowledge messages received from GGSN.	100 * {Session_Update_Request_success_rec}/ {Session_Update_Requests_sent}	Average	Average, hustrafbh
Error_GTP_C_Message_pkts_rec	ACCUMULATION	INTEGER	Number of invalid packets received through the Gn/Gp interface.	M117440530.S117452443	Sum	hustrafbh, Sum
GGSN_GTPC_V0_path_numbers	INTENSITY	INTEGER	GGSN GTPC V0 path numbers	M117440530.S117452450	Average	Average, hustrafbh, Maximum, Minimu

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						m, Sum
GGSN_GTPC_V1_path_numbers	INTENSITY	INTEGER	GGSN GTPC V1 path numbers	M117440530.S117452451	Average	Average, hustrafbh, Maximum, Minimum, Sum
GTP_C_data_bytes_rec	ACCUMULATION	INT8	GTP-C message traffic received from GGSN.	M117440530.S117452417	Sum	hustrafbh, Sum
GTP_C_data_bytes_sent	ACCUMULATION	INT8	GTP-C message traffic sent to GGSN.	M117440530.S117452418	Sum	hustrafbh, Sum
GTP_C_data_kbytes_Processed_Peak_throughput	INTENSITY	INT8	Maximum recorded value of packets processed throughput over Gn interface .	M117440530.S117452447	Average	Average, hustrafbh, Maximum, Minimum, Sum
GTP_C_data_kbytes_Processed_throughput	INTENSITY	INT8	GTP-C message traffic sent through Gn/Gp interface.	M117440530.S117452446	Average	Average, hustrafbh, Maximum, Minimum, Sum
GTP_C_data_kbytes_rec_from_Gn_Gp	ACCUMULATION	INT8	GTP-C message traffic received through Gn/Gp interface.	M117440530.S117452415	Sum	hustrafbh, Sum
GTP_C_data_kbytes_sent_to_Gn_Gp	ACCUMULATION	INT8	GTP-C message traffic sent through Gn/Gp interface.	M117440530.S117452416	Sum	hustrafbh, Sum
GTP_C_data_pkts_rec	ACCUMULATION	INTEGER	Number of GTP-C	M117440530.S117452427	Sum	hustrafbh, Sum

			messages received from GGSN.			
GTP_C_data_pkts_sent	ACCUMULATION	INTEGER	Number of GTP-C messages sent to GGSN.	M117440530.S117452428	Sum	hustrafbh, Sum
GTP_C_Message_pkts_Peak_Processed	INTENSITY	INT8	Peak number of GTP-C message packets processed via Gn interface. The message packets here include maintenance message packet and service message packet.	M117440530.S117452445	Average	Average, hustrafbh, Maximum, Minimum, Sum
GTP_C_Message_pkts_Processed	ACCUMULATION	INTEGER	Number of GTP-C message packets processed via Gn interface. The message packets here include maintenance message packet and service message packet.	M117440530.S117452444	Sum	hustrafbh, Sum
GTP_C_Message_pkts_rec	ACCUMULATION	INTEGER	Total number of GTP-C message packets	M117440530.S117452413	Sum	hustrafbh, Sum

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			received via Gn interface.			
GTP_C_Message_pkts_sent	ACCUMULATION	INTEGER	Total number of GTP-C message packets send via Gn interface.	M117440530.S117452414	Sum	hustrafbh, Sum
GTP_SGSN_Context_Acknowledges_rec	ACCUMULATION	INTEGER	Number of SGSN context acknowledge messages received through the Gn/ Gp interface.	M117440530.S117452435	Sum	hustrafbh, Sum
GTP_SGSN_Context_Acknowledges_sent	ACCUMULATION	INTEGER	Number of SGSN context acknowledge messages sent through the Gn/ Gp interface.	M117440530.S117452436	Sum	hustrafbh, Sum
GTP_SGSN_Context_requests_rec	ACCUMULATION	INTEGER	Number of SGSN context request messages received through the Gn/ Gp interface.	M117440530.S117452431	Sum	hustrafbh, Sum
GTP_SGSN_Context_Requests_sent	ACCUMULATION	INTEGER	Number of SGSN context request messages sent through the Gn/ Gp interface.	M117440530.S117452432	Sum	hustrafbh, Sum
GTP_SGSN_Context_Responses_rec	ACCUMULATION	INTEGER	Number of SGSN context response messages received through the Gn/ Gp interface.	M117440530.S117452433	Sum	hustrafbh, Sum

GTP_SGSN_Context_Responses_sent	ACCUMULATION	INTEGER	Number of SGSN context response messages sent through the Gn/Gp interface.	M117440530.S117452434	Sum	hustrafbh, Sum
Gtp_Version_Not_Supported_PDUs_rec_from_Gn_Gp	ACCUMULATION	INTEGER	Number of "GTP version not supported" messages received through the Gn/Gp interface.	M117440530.S117452429	Sum	hustrafbh, Sum
Gtp_Version_Not_Supported_PDUs_sent_to_Gn_Gp	ACCUMULATION	INTEGER	Number of "GTP version not supported" messages sent through the Gn/Gp interface.	M117440530.S117452430	Sum	hustrafbh, Sum
Location_management_msg_pkts_rec	ACCUMULATION	INTEGER	Number of location management packets received through the Gn/Gp interface.	M117440530.S117452423	Sum	hustrafbh, Sum
Location_management_msg_pkts_sent	ACCUMULATION	INTEGER	Number of location management packets sent through the Gn/Gp interface.	M117440530.S117452424	Sum	hustrafbh, Sum
Mobile_management_msg_pkts_rec	ACCUMULATION	INTEGER	Number of mobile management packets received through the Gn/	M117440530.S117452421	Sum	hustrafbh, Sum

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			Gp interface.			
Mobile_management_msg_pkts_sent	ACCUMULATION	INTEGER	Number of mobile management packets sent through the Gn/ Gp interface.	M117440530.S117452422	Sum	hustrafbh, Sum
Path_management_msg_pkts_rec	ACCUMULATION	INTEGER	Number of path management packets received through the Gn/ Gp interface	M117440530.S117452425	Sum	hustrafbh, Sum
Path_management_msg_pkts_sent	ACCUMULATION	INTEGER	Number of path management packets sent through the Gn/ Gp interface	M117440530.S117452426	Sum	hustrafbh, Sum
Pkts_discarded_due_buffer_overflow	ACCUMULATION	INTEGER	Number of packets discarded due to buffer overflow.	M117440530.S117452442	Sum	hustrafbh, Sum
Protocol_errors_msg_too_short	ACCUMULATION	INTEGER	Number of messages with too short GTP header received by SGSN.	M117440530.S117452439	Sum	hustrafbh, Sum
Protocol_errors_msg_unexpected_msg	ACCUMULATION	INTEGER	Number of unexpected messages received by SGSN.	M117440530.S117452441	Sum	hustrafbh, Sum
Protocol_errors_msg_unknow_or_erroneous_header	ACCUMULATION	INTEGER	Number of unknown messages or messages with erroreous GTP header received by SGSN.	M117440530.S117452440	Sum	hustrafbh, Sum
Session_msg_pk	ACCUMULA	INTEG	Number of	M117440530.S117	Sum	hustrafbh

ts_rec	TION	ER	session message received through Gn/Gp interface.	452419		, Sum
Session_msg_pkts_sent	ACCUMULATION	INTEGER	Number of session message sent through Gn/Gp interface.	M117440530.S117452420	Sum	hustrafbh, Sum
Session_Update_Request_success_rec	ACCUMULATION	INTEGER	Number of session update acknowledge messages received from GGSN.	M117440530.S117452438	Sum	hustrafbh, Sum
Session_Update_Requests_sent	ACCUMULATION	INTEGER	Number of session update request messages sent to GGSN.	M117440530.S117452437	Sum	hustrafbh, Sum
SG_GTPC_V0_path_numbers	INTENSITY	INTEGER	SGSN GTPC V0 path numbers	M117440530.S117452448	Average	Average, hustrafbh, Maximum, Minimum, Sum
SG_GTPC_V1_path_numbers	INTENSITY	INTEGER	SGSN GTPC V1 path numbers	M117440530.S117452449	Average	Average, hustrafbh, Maximum, Minimum, Sum

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7.31.29SGSN.Huawei.GPRS.GTP_System_NTP

GTP System NTP measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
Invalid_NTP_pkts_rec	ACCUMULATION	INTEGER	Number of invalid NTP packets received.	M117440532.S117452616	Sum	hustrafbh, Sum
NTP_pkts_rec	ACCUMULATION	INTEGER	Number of NTP packets received.	M117440532.S117452615	Sum	hustrafbh, Sum
NTP_queries_on_server_non_response	ACCUMULATION	INTEGER	Number of times SGSN does not receive the response message from the NTP server.	M117440532.S117452617	Sum	hustrafbh, Sum
NTP_reports_to_update_system_times	ACCUMULATION	INTEGER	Number of request for system time update by the NTP module.	M117440532.S117452613	Sum	hustrafbh, Sum
NTP_request_pkt_sent	ACCUMULATION	INTEGER	Number of NTP request packets sent.	M117440532.S117452614	Sum	hustrafbh, Sum

7.31.30SGSN.Huawei.GPRS.GTPU_Bearer

GTPU Bearer measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
_3G_DL_data_sent_to_RNC_average_pkts	INTENSITY	FLOAT	The peak rate of the uplink data packet sent from the RNC (including the protocol head) (unit: kbps).	M117440536.S117453044	Average	Average, hustrafbh, Maximum, Minimum, Sum

_3G_DL_data_sent_to_RNC_peak_pkts	INTENSITY	FLOAT	The peak rate of the uplink data packet sent from the RNC (including the protocol head) (unit: kbps).	M117440536.S117453042	Average	Average, hustrafbh, Maximum, Minimum, Sum
_3G_UL_data_from_RNC_average_pkts	INTENSITY	FLOAT	The average rate of the downlink data packet sent from the RNC (including the protocol head) (unit: Kbps).	M117440536.S117453043	Average	Average, hustrafbh, Maximum, Minimum, Sum
_3G_UL_data_from_RNC_peak_pkts	INTENSITY	FLOAT	The peak rate of the downlink data packet sent from the RNC (including the protocol head) (unit: kbps).	M117440536.S117453041	Average	Average, hustrafbh, Maximum, Minimum, Sum
DL_data_kbytes_sent_to_RNC	ACCUMULATION	INT8	The kbytes of the downlink data packets (including protocol header) transmitted to RNC.	M117440536.S117453027	Sum	hustrafbh, Sum
DL_data_kbytes_sent_to_SNDCP	ACCUMULATION	INT8	The Kbytes of downlink data packets (including protocol header) transmitted to the SNDCP layer.	M117440536.S117453023	Sum	hustrafbh, Sum
DL_data_pkts_	ACCUMULA	INT8	Number of	M117440536.S117	Sum	hustrafbh

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sent_to_RNC	TION		downlink data packets transmitted to RNC.	453026		, Sum
DL_data_pkts_sent_to_SNDCP	ACCUMULATION	INT8	Number of downlink data packets transmitted to the SNDCP layer.	M117440536.S117453022	Sum	hustrafbh, Sum
DL_pkts_discarded	ACCUMULATION	INT8	Number of downlink packets discarded by UHPU.	M117440536.S117453017	Sum	hustrafbh, Sum
GTP_kbytes_rec_from_GGSN	ACCUMULATION	INT8	The Kbytes of GTP packets (including protocol header) received from GGSN.	M117440536.S117453021	Sum	hustrafbh, Sum
GTP_kbytes_sent_to_GGSN	ACCUMULATION	INT8	The Kbytes of GTP packets (including protocol header) transmitted to GGSN.	M117440536.S117453019	Sum	hustrafbh, Sum
GTP_pkts_rec_from_GGSN	ACCUMULATION	INT8	Number of GTP packets received from GGSN.	M117440536.S117453020	Sum	hustrafbh, Sum
GTP_pkts_sent_to_GGSN	ACCUMULATION	INT8	Number of GTP packets transmitted to GGSN.	M117440536.S117453018	Sum	hustrafbh, Sum
GTP_U_path_interrupts	ACCUMULATION	INT8	Number of times GTP-U path is interrupted.	M117440536.S117453040	Sum	hustrafbh, Sum
IP_msg_sent_in_segments	ACCUMULATION	INT8	Number of IP messages to be	M117440536.S117453039	Sum	hustrafbh, Sum

			sent as fragments.			
IP_pkts_rec	ACCUMULATION	INT8	Total number of IP packets received by UHPU.	M117440536.S117453037	Sum	hustrafbh, Sum
IPV4_ACL_Deny_pkt	ACCUMULATION	INT8	Total number of messages whose IPv4 ACL processing result is DENY.	M117440536.S117453046	Sum	hustrafbh, Sum
IPv4_ACL_Permit_pkt	ACCUMULATION	INT8	Total number of messages whose IPv4 ACL processing result is PERMIT.	M117440536.S117453045	Sum	hustrafbh, Sum
Pkts_discarded	ACCUMULATION	INT8	Number of packets discarded by UHPU, including uplink, downlink and internal packets.	M117440536.S117453015	Sum	hustrafbh, Sum
Pkts_rec	ACCUMULATION	INT8	Total number of packets received by UHPU.	M117440536.S117453013	Sum	hustrafbh, Sum
Pkts_sent	ACCUMULATION	INT8	Total number of packets transmitted by UHPU.	M117440536.S117453014	Sum	hustrafbh, Sum
Protocol_error_msg_too_short	ACCUMULATION	INT8	Number of GTP-U data packets with error "Message	M117440536.S117453034	Sum	hustrafbh, Sum

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			too short".			
Protocol_error_msg_unknown_or_errored_header	ACCUMULATION	INT8	Number of GTP-U packets discarded due to unknown or errored header.	M117440536.S117453035	Sum	hustrafbh, Sum
Protocol_errors_msg_msg_unknown	ACCUMULATION	INT8	Number of unexpected GTP packets received.	M117440536.S117453036	Sum	hustrafbh, Sum
Segments_rec	ACCUMULATION	INT8	Number of IP messages received as fragments.	M117440536.S117453038	Sum	hustrafbh, Sum
SNDCP_kbytes_GTP_rec_from_SNDCP	ACCUMULATION	INT8	The kbytes of packets (including protocol header) received by GTP from the SNDCP layer.	M117440536.S117453031	Sum	hustrafbh, Sum
SNDCP_kbytes_GTP_sent_to_SNDCP	ACCUMULATION	INT8	The kbytes of data packets (including protocol header) forwarded from GTP to the SNDCP layer.	M117440536.S117453033	Sum	hustrafbh, Sum
SNDCP_pkts_GTP_rec_from_SNDCP	ACCUMULATION	INT8	Number of packets received by GTP from the SNDCP layer.	M117440536.S117453030	Sum	hustrafbh, Sum
SNDCP_pkts_GTP_sent_to_SNDCP	ACCUMULATION	INT8	Number of data packets forwarded from GTP to the SNDCP layer.	M117440536.S117453032	Sum	hustrafbh, Sum
UL_data_kbytes_rec_from_RNC	ACCUMULATION	INT8	The kbytes of the uplink data packets	M117440536.S117453029	Sum	hustrafbh, Sum

			(including protocol header) received from RNC.			
UL_data_kbytes_rec_from_SNDCP	ACCUMULATION	INT8	The Kbytes of the uplink data packets (including protocol header) received from the SNDCP layer.	M117440536.S117453025	Sum	hustrafbh, Sum
UL_data_pkts_rec_from_RNC	ACCUMULATION	INT8	Number of uplink data packets received from RNC.	M117440536.S117453028	Sum	hustrafbh, Sum
UL_data_pkts_rec_from_SNDCP	ACCUMULATION	INT8	Number of uplink data packets received from the SNDCP layer.	M117440536.S117453024	Sum	hustrafbh, Sum
UL_pkts_discarded	ACCUMULATION	INT8	Number of uplink packets discarded by UHPU.	M117440536.S117453016	Sum	hustrafbh, Sum

7.31.31SGSN.Huawei.GPRS.GTPU_Data_Packets_Transfer_per_QoS

GTPU Data Packets Transfer per QoS measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
Average_background_queue_length	INTENSITY	INTEGER	The arithmetic mean length of incoming	M117440539.S117453358	Average	Average, hustrafbh,

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			BACKGROUND queue.			Maximum, Minimum, Sum
Average_conversational_queue_length	INTENSITY	INTEGER	The arithmetic mean length of incoming CONVERSATIONAL queue.	M117440539.S117453355	Average	Average, hustrafbh, Maximum, Minimum, Sum
Average_interactive_queue_length	INTENSITY	INTEGER	The arithmetic mean length of incoming INTERACTIVE queue.	M117440539.S117453357	Average	Average, hustrafbh, Maximum, Minimum, Sum
Average_streaming_queue_length	INTENSITY	INTEGER	The arithmetic mean length of incoming STREAMING queue.	M117440539.S117453356	Average	Average, hustrafbh, Maximum, Minimum, Sum
Background_kbytes	ACCUMULATION	INT8	This measurement provides bytes of received packets at the Background class (including uplink/downlink).	M117440539.S117453320	Sum	hustrafbh, Sum
Background_pkts	ACCUMULATION	INTEGER	Number of received packets at the Background class (including uplink/downlink).	M117440539.S117453316	Sum	hustrafbh, Sum
Conversational_kbytes	ACCUMULATION	INT8	This measurement provides bytes of received packets at the Conversational class (including	M117440539.S117453317	Sum	hustrafbh, Sum

			uplink/downlink).			
Conversational_pkts	ACCUMULATION	INTEGER	Number of received packets at the Conversational class (including uplink/downlink).	M117440539.S117453313	Sum	hustrafbh, Sum
DL_background_kbytes	ACCUMULATION	INT8	The bytes of received packets at the BACKGROUND class (downlink).	M117440539.S117453334	Sum	hustrafbh, Sum
DL_background_pkts	ACCUMULATION	INTEGER	Number of received packets at the BACKGROUND class (downlink).	M117440539.S117453330	Sum	hustrafbh, Sum
DL_conversational_kbytes	ACCUMULATION	INT8	The bytes of received packets at the Conversational class (downlink).	M117440539.S117453331	Sum	hustrafbh, Sum
DL_conversational_pkts	ACCUMULATION	INTEGER	Number of received packets at the Conversational class (downlink).	M117440539.S117453327	Sum	hustrafbh, Sum
DL_interactive_kbytes	ACCUMULATION	INT8	The bytes of received packets at the INTERACTIVE class (downlink).	M117440539.S117453333	Sum	hustrafbh, Sum
DL_interactive_pkts	ACCUMULATION	INTEGER	Number of received packets at the INTERACTIVE class (downlink).	M117440539.S117453329	Sum	hustrafbh, Sum

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DL_streaming_kbytes	ACCUMULATION	INT8	The bytes of received packets at the STREAMING class (downlink).	M117440539.S117453332	Sum	hustrafbh, Sum
DL_streaming_pkts	ACCUMULATION	INTEGER	Number of received packets at the STREAMING class (downlink).	M117440539.S117453328	Sum	hustrafbh, Sum
Interactive_kbytes	ACCUMULATION	INT8	This measurement provides bytes of received packets at the Interactive class (including uplink/downlink).	M117440539.S117453319	Sum	hustrafbh, Sum
Interactive_pkts	ACCUMULATION	INTEGER	Number of received packets at the Interactive class (including uplink/downlink).	M117440539.S117453315	Sum	hustrafbh, Sum
Max_avail_background_bw	INTENSITY	FLOAT	The highest recorded available bandwidth for BACKGROUND packets	M117440539.S117453366	Constant	Average, hustrafbh, Maximum, Minimum, Sum
Max_avail_conversational_bw	INTENSITY	FLOAT	The highest recorded available bandwidth for CONVERSATIONAL packets .	M117440539.S117453363	Constant	Average, hustrafbh, Maximum, Minimum, Sum
Max_avail_interactive_bw	INTENSITY	FLOAT	The highest recorded available bandwidth for INTERACTIVE packets	M117440539.S117453365	Constant	Average, hustrafbh, Maximum, Minimum, Sum

Max_avail_streaming_bw	INTENSITY	FLOAT	The highest recorded available bandwidth for STREAMING packets	M117440539.S117453364	Constant	Average, hustrafbh, Maximum, Minimum, Sum
Max_background_queue_length	INTENSITY	INTEGER	The highest recorded length for the incoming BACKGROUND queue .	M117440539.S117453362	Constant	Average, hustrafbh, Maximum, Minimum, Sum
Max_conversational_queue_length	INTENSITY	INTEGER	The highest recorded length for the incoming CONVERSATIONAL queue .	M117440539.S117453359	Constant	Average, hustrafbh, Maximum, Minimum, Sum
Max_interactive_queue_length	INTENSITY	INTEGER	The highest recorded length for the incoming INTERACTIVE queue .	M117440539.S117453361	Constant	Average, hustrafbh, Maximum, Minimum, Sum
Max_streaming_queue_length	INTENSITY	INTEGER	The highest recorded length for the incoming STREAMING queue .	M117440539.S117453360	Constant	Average, hustrafbh, Maximum, Minimum, Sum
MBMS_Kbytes_of_Background_class_receive	ACCUMULATION	INT8	Number of MBMS bytes of Background class	M117440539.S117453369	Sum	hustrafbh, Sum

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d_from_GGSN			received from GGSN.			
MBMS_Kbytes_of_Streaming_class_received_from_GGSN	ACCUMULATION	INT8	Number of MBMS bytes of Streaming class received from GGSN.	M117440539.S117453367	Sum	hustrafbh, Sum
MBMS_Packets_of_Background_class_received_from_GGSN	ACCUMULATION	INT8	Number of MBMS packets of Background class received from GGSN.	M117440539.S117453370	Sum	hustrafbh, Sum
MBMS_Packets_of_Streaming_class_received_from_GGSN	ACCUMULATION	INT8	Number of MBMS packets of Streaming class received from GGSN.	M117440539.S117453098	Sum	hustrafbh, Sum
Overflowed_background_kbytes	ACCUMULATION	INT8	The Kbytes of packets discarded due to overflow of the BACKGROUND class message buffer area (including uplink/ downlink).	M117440539.S117453326	Sum	hustrafbh, Sum
Overflowed_background_pkts	ACCUMULATION	INTEGER	Number of packets discarded due to overflow of the BACKGROUND class message buffer area (including uplink/ downlink).	M117440539.S117453324	Sum	hustrafbh, Sum
Overflowed_conversational_pkts	ACCUMULATION	INTEGER	Number of packets discarded due to overflow of the Conversational class message buffer area (including uplink/	M117440539.S117453321	Sum	hustrafbh, Sum

			downlink).			
Overflowed_interactive_kbytes	ACCUMULATION	INT8	The Kbytes of packets discarded due to overflow of the Interactive class message buffer area (including uplink/ downlink).	M117440539.S117453325	Sum	hustrafbh, Sum
Overflowed_interactive_pkts	ACCUMULATION	INTEGER	Number of packets discarded due to overflow of the Interactive class message buffer area (including uplink/ downlink).	M117440539.S117453323	Sum	hustrafbh, Sum
Overflowed_streaming_pkts	ACCUMULATION	INTEGER	Number of packets discarded due to overflow of the Streaming class message buffer area (including uplink/ downlink).	M117440539.S117453322	Sum	hustrafbh, Sum
Remarked_background_pkts	ACCUMULATION	INTEGER	Number of packets remarked as the BACKGROUND class (uplink/downlink).	M117440539.S117453354	Sum	hustrafbh, Sum
Remarked_conversational_pkts	ACCUMULATION	INTEGER	Number of packets remarked as the Conversational class (uplink/downlink).	M117440539.S117453351	Sum	hustrafbh, Sum

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Remarked_interactive_pkts	ACCUMULATION	INTEGER	Number of packets remarked as the INTERACTIVE class (uplink/downlink).	M117440539.S117453353	Sum	hustrafbh, Sum
Remarked_streaming_pkts	ACCUMULATION	INTEGER	Number of packets remarked as the STREAMING class (uplink/downlink).	M117440539.S117453352	Sum	hustrafbh, Sum
Streaming_kbytes	ACCUMULATION	INT8	This measurement provides bytes of received packets at the Streaming class (including uplink/downlink).	M117440539.S117453318	Sum	hustrafbh, Sum
Streaming_pkts	ACCUMULATION	INTEGER	Number of received packets at the Streaming class (including uplink/downlink).	M117440539.S117453314	Sum	hustrafbh, Sum
SWITCH_background_kbytes	ACCUMULATION	INT8	The bytes of received packets at the BACKGROUND class (SWITCH).	M117440539.S117453350	Sum	hustrafbh, Sum
SWITCH_background_pkts	ACCUMULATION	INTEGER	Number of received packets at the BACKGROUND class (SWITCH).	M117440539.S117453346	Sum	hustrafbh, Sum
SWITCH_conversational_kbytes	ACCUMULATION	INT8	The bytes of received packets at the Conversational class (SWITCH).	M117440539.S117453347	Sum	hustrafbh, Sum
SWITCH_conversational_pkts	ACCUMULATION	INTEGER	Number of received packets at the	M117440539.S117453343	Sum	hustrafbh, Sum

			Conversational class (SWITCH).			
SWITCH_interactive_kbytes	ACCUMULATION	INT8	The bytes of received packets at the INTERACTIVE class (SWITCH).	M117440539.S117453349	Sum	hustrafbh, Sum
SWITCH_interactive_pkts	ACCUMULATION	INTEGER	Number of received packets at the INTERACTIVE class (SWITCH).	M117440539.S117453345	Sum	hustrafbh, Sum
SWITCH_streaming_kbytes	ACCUMULATION	INT8	The bytes of received packets at the STREAMING class (SWITCH).	M117440539.S117453348	Sum	hustrafbh, Sum
SWITCH_streaming_pkts	ACCUMULATION	INTEGER	Number of received packets at the STREAMING class (SWITCH).	M117440539.S117453344	Sum	hustrafbh, Sum
UL_background_kbytes	ACCUMULATION	INT8	The bytes of received packets at the BACKGROUND class (uplink).	M117440539.S117453342	Sum	hustrafbh, Sum
UL_background_pkts	ACCUMULATION	INTEGER	Number of received packets at the BACKGROUND class (uplink).	M117440539.S117453338	Sum	hustrafbh, Sum
UL_conversational_kbytes	ACCUMULATION	INT8	The bytes of received packets at the Conversational class (uplink).	M117440539.S117453339	Sum	hustrafbh, Sum

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UL_conversational_pkts	ACCUMULATION	INTEGER	Number of received packets at the Conversational class (uplink).	M117440539.S117453335	Sum	hustrafbh, Sum
UL_interactive_kbytes	ACCUMULATION	INT8	The bytes of received packets at the INTERACTIVE class (uplink).	M117440539.S117453341	Sum	hustrafbh, Sum
UL_interactive_pkts	ACCUMULATION	INTEGER	Number of received packets at the INTERACTIVE class (uplink).	M117440539.S117453337	Sum	hustrafbh, Sum
UL_streaming_kbytes	ACCUMULATION	INT8	The bytes of received packets at the STREAMING class (uplink).	M117440539.S117453340	Sum	hustrafbh, Sum
UL_streaming_pkts	ACCUMULATION	INTEGER	Number of received packets at the STREAMING class (uplink).	M117440539.S117453336	Sum	hustrafbh, Sum

7.31.32SGSN.Huawei.GPRS.GTPU_Data_Packets_Transfer

GTPU Data Packets Transfer measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
CAR_remarking_pkt_of_contrv_class	ACCUMULATION	INTEGER	Number of CAR Remarking Packets for the Conversational QoS Class.	M117440537.S117453148	Sum	hustrafbh, Sum
CAR_remarking_pkt_of_strm_class	ACCUMULATION	INTEGER	Number of CAR Remarking Packets for the Streaming QoS	M117440537.S117453149	Sum	hustrafbh, Sum

			Class.			
Dropped_MBMS_GTP_U_Packets_by_SGSN	ACCUMULATION	INT8	Number of dropped MBMS packets in SGSN.	M117440537.S117453156	Sum	hustrafbh, Sum
Dropped_MBMS_GTP_U_Packets_due_to_invalid_MGIB	ACCUMULATION	INT8	Number of dropped MBMS packets in SGSN due to MBMS GIB invalid.	M117440537.S117453157	Sum	hustrafbh, Sum
Dropped_MBMS_GTP_U_Packets_due_to_invalid_TEID	ACCUMULATION	INT8	Number of dropped MBMS packets in SGSN due to MBMS TEID invalid.	M117440537.S117453158	Sum	hustrafbh, Sum
Gb_mode_DL_kbytes	ACCUMULATION	INT8	Bytes of 2G downlink packets forwarded successfully from GTP.	M117440537.S117453120	Sum	hustrafbh, Sum
Gb_mode_DL_pkts	ACCUMULATION	INTEGER	Number of 2G downlink packets forwarded successfully from GTP.	M117440537.S117453118	Sum	hustrafbh, Sum
Gb_mode_handover_bytes	ACCUMULATION	INT8	Bytes of 2G packets forwarded during the handover process.	M117440537.S117453124	Sum	hustrafbh, Sum
Gb_mode_handover_pkts	ACCUMULATION	INTEGER	Number of 2G packets	M117440537.S117453123	Sum	hustrafbh, Sum

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			forwarded during the handover process.			
Gb_mode_UL_kbytes	ACCUMULATION	INT8	Bytes of 2G uplink packets forwarded successfully from GTP.	M117440537.S117453119	Sum	hustrafbh, Sum
Gb_mode_UL_pkts	ACCUMULATION	INTEGER	Number of 2G uplink packets forwarded successfully from GTP.	M117440537.S117453117	Sum	hustrafbh, Sum
Gn_DL_data_pkts_dropped_buf_overload	ACCUMULATION	INTEGER	Number of Gn downlink data packets dropped due to buffer overload.	M117440537.S117453151	Sum	hustrafbh, Sum
Gn_mean_pkts	INTENSITY	FLOAT	The arithmetic mean of number of GTP packets processed by SGSN.	M117440537.S117453144	Average	Average, hustrafbh, Maximum, Minimum, Sum
Gn_mean_rec_pkts	INTENSITY	FLOAT	The arithmetic mean of number of GTP packets received from GGSN.	M117440537.S117453143	Average	Average, hustrafbh, Maximum, Minimum, Sum
Gn_mean_rec_throughput	INTENSITY	FLOAT	The arithmetic mean of bytes of GTP packets received from GGSN.	M117440537.S117453134	Average	Average, hustrafbh, Maximum, Minimum, Sum
Gn_mean_sent	INTENSITY	FLOA	The arithmetic	M117440537.S117	Average	Average,

_pkts		T	mean of number of GTP packets sent to GGSN.	453142		hustrafbh, Maximum, Minimum, Sum
Gn_mean_sent_throughput	INTENSITY	FLOAT	The arithmetic mean of bytes of GTP packets sent to GGSN.	M117440537.S117453133	Average	Average, hustrafbh, Maximum, Minimum, Sum
Gn_mean_throughput	INTENSITY	FLOAT	The arithmetic mean of bytes of GTP packets processed by SGSN.	M117440537.S117453135	Average	Average, hustrafbh, Maximum, Minimum, Sum
Gn_operated_kbytes	ACCUMULATION	INT8	The bytes of GTP packets processed by SGSN.	M117440537.S117453132	Sum	hustrafbh, Sum
Gn_operated_pkts	ACCUMULATION	INTEGER	Number of GTP packets processed by SGSN.	M117440537.S117453141	Sum	hustrafbh, Sum
Gn_peak_pkts	INTENSITY	FLOAT	The maximum recorded value of packets processed over Gn interface .	M117440537.S117453147	Constant	Average, hustrafbh, Maximum, Minimum, Sum
Gn_peak_rec_pkts	INTENSITY	FLOAT	The maximum recorded value of packets	M117440537.S117453146	Constant	Average, hustrafbh,

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			received over Gn interface .			Maximum, Minimum, Sum
Gn_peak_rec_throughput	INTENSITY	FLOAT	The maximum recorded value of packets received throughput over Gn interface .	M117440537.S117453137	Constant	Average, hustrafbh, Maximum, Minimum, Sum
Gn_peak_sent_pkts	INTENSITY	FLOAT	The maximum recorded value of packets sent over Gn interface .	M117440537.S117453145	Constant	Average, hustrafbh, Maximum, Minimum, Sum
Gn_peak_sent_throughput	INTENSITY	FLOAT	The maximum recorded value of packets sent throughput over Gn interface.	M117440537.S117453136	Constant	Average, hustrafbh, Maximum, Minimum, Sum
Gn_peak_throughput	INTENSITY	FLOAT	The maximum recorded value of packets processed throughput over Gn interface.	M117440537.S117453138	Constant	Average, hustrafbh, Maximum, Minimum, Sum
Gn_rec_kbytes	ACCUMULATION	INT8	The bytes of GTP packets received from GGSN.	M117440537.S117453131	Sum	hustrafbh, Sum
Gn_rec_pkts	ACCUMULATION	INTEGER	Number of GTP packets received from GGSN.	M117440537.S117453140	Sum	hustrafbh, Sum
Gn_sent_kbytes	ACCUMULATION	INT8	The bytes of GTP packets	M117440537.S117453130	Sum	hustrafbh, Sum

			sent to GGSN.			
Gn_sent_pkts	ACCUMULATION	INTEGER	Number of GTP packets sent to GGSN.	M117440537.S117453139	Sum	hustrafbh, Sum
Gn_UL_data_pkts_dropped_buf_overload	ACCUMULATION	INTEGER	Number of Gn uplink data packets dropped due to buffer overload.	M117440537.S117453150	Sum	hustrafbh, Sum
GTP_U_pkts_forwarded	ACCUMULATION	INTEGER	Number of all packets forwarded.	M117440537.S117453125	Sum	hustrafbh, Sum
GTP_U_pkts_rec	ACCUMULATION	INTEGER	Number of GTP-U packet received from GSN/RNC.	M117440537.S117453127	Sum	hustrafbh, Sum
Iu_mode_DL_max_pkts	INTENSITY	FLOAT	Obsolete from CN-SGSN/V900R010.C01SPC022:Iu mode downlink max packets	M117440537.S117453160	Average	Average, hustrafbh, Maximum, Minimum, Sum
Iu_mode_DL_pkts	ACCUMULATION	INTEGER	Number of 3G downlink packets forwarded successfully from GTP.	M117440537.S117453114	Sum	hustrafbh, Sum
Iu_mode_donwlink_kbytes	ACCUMULATION	INT8	Bytes of 3G downlink packets forwarded successfully from GTP.	M117440537.S117453116	Sum	hustrafbh, Sum
Iu_mode_hand	ACCUMULA	INT8	Bytes of 3G	M117440537.S117	Sum	hustrafbh

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over_bytes	TION		packets forwarded during the handover process.	453122		, Sum
Iu_mode_handover_pkts	ACCUMULATION	INTEGER	Number of 3G packets forwarded during the handover process.	M117440537.S117453121	Sum	hustrafbh, Sum
Iu_mode_UL_kbytes	ACCUMULATION	INT8	Bytes of 3G uplink packets forwarded successfully from GTP.	M117440537.S117453115	Sum	hustrafbh, Sum
Iu_mode_UL_max_pkts	INTENSITY	FLOAT	Obsolete from CN-SGSN/V900R010.C01SPC022:Iu mode uplink max packets	M117440537.S117453159	Average	Average, hustrafbh, Maximum, Minimum, Sum
Iu_mode_UL_pkts	ACCUMULATION	INTEGER	Number of 3G uplink packets forwarded successfully from GTP.	M117440537.S117453113	Sum	hustrafbh, Sum
MBMS_GTP_U_Kbytes_forwarded_to_RNC	ACCUMULATION	INT8	Number of bytes MBMS packets forwarded to RNC.	M117440537.S117453154	Sum	hustrafbh, Sum
MBMS_GTP_U_Kbytes_received_from_GGSN	ACCUMULATION	INT8	Number of bytes MBMS packets from GGSN.	M117440537.S117453152	Sum	hustrafbh, Sum
MBMS_GTP_U_Packets_received_from_GGSN	ACCUMULATION	INT8	Number of MBMS packets from GGSN.	M117440537.S117453153	Sum	hustrafbh, Sum
MBMS_GTP_	ACCUMULA	INT8	Number of	M117440537.S117	Sum	hustrafbh

U_Pakets_forwarded_to_RNC	TION		MBMS packets forwarded to RNC.	453155		, Sum
Pkts_dropped_wrong_teid	ACCUMULATION	INTEGER	Number of packets dropped due to wrong TEID.	M117440537.S117453129	Sum	hustrafbh, Sum
Pkts_dropped	ACCUMULATION	INTEGER	Number of packets dropped due to error.	M117440537.S117453128	Sum	hustrafbh, Sum
UL_pkts_rec	ACCUMULATION	INTEGER	Number of received uplink packets.	M117440537.S117453126	Sum	hustrafbh, Sum

7.31.33SGSN.Huawei.GPRS.GTPU_Gn_Interface

GTPU Gn Interface measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
Echo_req_pkts_rec_by_SGSN_on_Gn	ACCUMULATION	INTEGER	Number of GTP Echo Request PDUs received by SGSN on the Gn interface	M117440533.S117452730	Sum	hustrafbh, Sum
Echo_req_pkts_sended_by_SGSN_on_Gn	ACCUMULATION	INTEGER	Number of GTP Echo Request PDUs transmitted by SGSN on the Gn interface	M117440533.S117452731	Sum	hustrafbh, Sum
Error_ind_pkts_sended_by_SGSN_on_Gn	ACCUMULATION	INTEGER	Number of GTP Error Indication PDUs sent by SGSN	M117440533.S117452732	Sum	hustrafbh, Sum
GTPU_kb_drop	ACCUMULA	INT8	Number of data	M117440533.S117	Sum	hustrafbh

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ped_due_del_PDP_ctxt	TION		bytes discarded by SGSN due to the associated PDP context being deleted on Gn interface	452744		, Sum
GTPU_kb_dropped_due_unkn_TEID_TID	ACCUMULATION	INT8	Number of data bytes discarded by SGSN due to the TEID/TID in the GTP header being unknown on Gn interface	M117440533.S117452742	Sum	hustrafbh, Sum
GTPU_pkts_discarded_by_SGSN_on_Gn	ACCUMULATION	INTEGER	Number of GTP-U packets dropped at the receiving point of the Gn interface	M117440533.S117452733	Sum	hustrafbh, Sum
GTPU_pkts_dropped_due_del_PDP_ctxt	ACCUMULATION	INTEGER	Number of data packets discarded by SGSN due to the associated PDP context being deleted on Gn interface	M117440533.S117452743	Sum	hustrafbh, Sum
GTPU_pkts_dropped_due_msg_short	ACCUMULATION	INTEGER	Number of GTP-U PDUs discarded by SGSN due to the message being too short on Gn interface	M117440533.S117452738	Sum	hustrafbh, Sum
GTPU_pkts_dropped_due_unexp_msg	ACCUMULATION	INTEGER	Number of GTP-U PDUs discarded by SGSN due to the message being expected on Gn interface	M117440533.S117452740	Sum	hustrafbh, Sum

GTPU_pkts_dropped_due_unkn_TEID_TID	ACCUMULATION	INTEGER	Number of GTP-U PDUs discarded by SGSN due to the TEID/TID in the GTP header being unknown on Gn interface	M117440533.S117452741	Sum	hustrafbh, Sum
GTPU_pkts_dropped_due_unknown_msg	ACCUMULATION	INTEGER	Number of GTP-U PDUs discarded by SGSN due to the message being unknown on Gn interface	M117440533.S117452739	Sum	hustrafbh, Sum
GTPU_pkts_rec_by_SGSN_on_Gn	ACCUMULATION	INTEGER	Total number of GTP-U packets (including corrupted packets) received by the SGSN at the Gn interface	M117440533.S117452729	Sum	hustrafbh, Sum
Kbytes_of_DL_background_class_on_Gn	ACCUMULATION	INT8	Number of forwarded kbytes on the Downlink for the Background QoS Class for the Gn interface	M117440533.S117452720	Sum	hustrafbh, Sum
Kbytes_of_DL_conv_class_on_Gn	ACCUMULATION	INT8	Number of forwarded kbytes on the Downlink for the conversational QoS Class for the Gn interface.	M117440533.S117452714	Sum	hustrafbh, Sum

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Kbytes_of_DL_interactive_class_on_Gn	ACCUMULATION	INT8	Number of forwarded kbytes on the Uplink for the Interactive QoS Class for the Gn interface	M117440533.S117452718	Sum	hustrafbh, Sum
Kbytes_of_DL_streaming_class_on_Gn	ACCUMULATION	INT8	Number of forwarded kbytes on the Downlink for the Streaming QoS Class for the Gn interface.	M117440533.S117452716	Sum	hustrafbh, Sum
Kbytes_of_UL_background_class_on_Gn	ACCUMULATION	INT8	Number of forwarded kbytes on the Uplink for the Background QoS Class for the Gn interface	M117440533.S117452728	Sum	hustrafbh, Sum
Kbytes_of_UL_conv_class_on_Gn	ACCUMULATION	INT8	Number of forwarded kbytes on the Uplink for the Conversational QoS Class for the Gn interface	M117440533.S117452722	Sum	hustrafbh, Sum
Kbytes_of_UL_Interac_class_on_Gn	ACCUMULATION	INT8	Number of forwarded kbytes on the Uplink for the Interactive QoS Class for the Gn interface	M117440533.S117452726	Sum	hustrafbh, Sum
Kbytes_of_UL_streaming_class_on_Gn	ACCUMULATION	INT8	Number of forwarded kbytes on the Uplink for the Streaming QoS Class for the Gn interface	M117440533.S117452724	Sum	hustrafbh, Sum

Pkts_of_DL_background_class_on_Gn	ACCUMULATION	INTEGER	Number of forwarded packets on the Downlink for the Background QoS Class for the Gn interface	M117440533.S117452719	Sum	hustrafbh, Sum
Pkts_of_DL_conv_class_on_Gn	ACCUMULATION	INTEGER	Number of forwarded packets on the Downlink for the Conversational QoS Class for the Gn interface.	M117440533.S117452713	Sum	hustrafbh, Sum
Pkts_of_DL_interactive_class_on_Gn	ACCUMULATION	INTEGER	Number of forwarded packets on the Uplink for the Interactive QoS Class for the Gn interface	M117440533.S117452717	Sum	hustrafbh, Sum
Pkts_of_DL_streaming_class_on_Gn	ACCUMULATION	INTEGER	Number of forwarded packets on the Downlink for the Streaming QoS Class for the Gn interface.	M117440533.S117452715	Sum	hustrafbh, Sum
Pkts_of_UL_background_class_on_Gn	ACCUMULATION	INTEGER	Number of forwarded packets on the Uplink for the Background QoS Class for the Gn interface	M117440533.S117452727	Sum	hustrafbh, Sum
Pkts_of_UL_conv_class_on_G	ACCUMULATION	INTEGER	Number of forwarded	M117440533.S117452721	Sum	hustrafbh, Sum

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n			packets on the Uplink for the Conversational QoS Class for the Gn interface			
Pkts_of_UL_interactive_class_on_Gn	ACCUMULATION	INTEGER	Number of forwarded packets on the Uplink for the Interactive QoS Class for the Gn interface	M117440533.S117452725	Sum	hustrafbh, Sum
Pkts_of_UL_streaming_class_on_Gn	ACCUMULATION	INTEGER	Number of forwarded packets on the Uplink for the Streaming QoS Class for the Gn interface	M117440533.S117452723	Sum	hustrafbh, Sum
QoS1_pkts_dropped_due_queue_overflow_Gn	ACCUMULATION	INTEGER	Number of Conversational class data packets discarded by the SGSN due to queue overflow on Gn interface	M117440533.S117452734	Sum	hustrafbh, Sum
QoS2_pkts_dropped_due_queue_overflow_Gn	ACCUMULATION	INTEGER	Number of Streaming class data packets discarded by the SGSN due to queue overflow on Gn interface	M117440533.S117452735	Sum	hustrafbh, Sum
QoS3_pkts_dropped_due_queue_overflow_Gn	ACCUMULATION	INTEGER	Number of Interactive class data packets discarded by the SGSN due to queue overflow on Gn interface	M117440533.S117452736	Sum	hustrafbh, Sum
QoS4_pkts_dro	ACCUMULA	INTEG	Number of	M117440533.S117	Sum	hustrafbh

pped_due_queue_overflow_Gn	TION	ER	Background class data packets discarded by the SGSN due to queue overflow on Gn interface	452737		, Sum

7.31.34SGSN.Huawei.GPRS.GTPU_Gp_Interface

GTPU Gp Interface measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
Echo_req_pkts_rec_by_SGSN_on_Gp	ACCUMULATION	INTEGER	Number of GTP Echo Request PDUs received by SGSN on the Gp interface	M117440534.S117452830	Sum	hustrafbh, Sum
Echo_req_pkts_sended_by_SGSN_on_Gp	ACCUMULATION	INTEGER	Number of GTP Echo Request PDUs sent by SGSN on the Gp interface	M117440534.S117452831	Sum	hustrafbh, Sum
Error_ind_pkts_sended_by_SGSN_on_Gp	ACCUMULATION	INTEGER	Number of GTP Error Indication PDUs sent by SGSN	M117440534.S117452832	Sum	hustrafbh, Sum
GTPU_kb_dropped_due_del_PDP_ctxt	ACCUMULATION	INT8	Number of data bytes discarded by SGSN due to the associated PDP context being deleted on Gp interface	M117440534.S117452844	Sum	hustrafbh, Sum
GTPU_kb_dropped_due_unkn_	ACCUMULATION	INT8	Number of data bytes discarded	M117440534.S117452842	Sum	hustrafbh, Sum

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TEID_TID			by SGSN due to the TEID/TID in the GTP header being unknown on Gp interface			
GTPU_pkts_discarded_by_SGSN_on_Gp	ACCUMULATION	INTEGER	Number of GTP-U packets dropped at the receiving point of the Gp interface	M117440534.S117452833	Sum	hustrafbh, Sum
GTPU_pkts_dropped_due_del_PDP_ctxt	ACCUMULATION	INTEGER	Number of data packets discarded by SGSN due to the associated PDP context being deleted on Gp interface	M117440534.S117452843	Sum	hustrafbh, Sum
GTPU_pkts_dropped_due_msg_short	ACCUMULATION	INTEGER	Number of GTP-U PDUs discarded by SGSN due to the message being too short on Gp interface	M117440534.S117452838	Sum	hustrafbh, Sum
GTPU_pkts_dropped_due_unexp_msg	ACCUMULATION	INTEGER	Number of GTP-U PDUs discarded by SGSN due to the message being expected on Gp interface	M117440534.S117452840	Sum	hustrafbh, Sum
GTPU_pkts_dropped_due_unkn_msg	ACCUMULATION	INTEGER	Number of GTP-U PDUs discarded by SGSN due to the message being unknown on Gp interface	M117440534.S117452839	Sum	hustrafbh, Sum
GTPU_pkts_dr	ACCUMULA	INTEG	Number of	M117440534.S117	Sum	hustrafbh

opped_due_unkn_TEID_TID	TION	ER	GTP-U PDUs discarded by SGSN due to the TEID/TID in the GTP header being unknown on Gp interface	452841		, Sum
GTPU_pkts_rec_by_SGSN_on_Gp	ACCUMULATION	INTEGER	Total number of GTP-U packets (including corrupted packets) received by the SGSN at the Gp interface	M117440534.S117452829	Sum	hustrafbh, Sum
Kbytes_of_DL_background_class_on_Gp	ACCUMULATION	INT8	Number of forwarded bytes on the Downlink for the Background QoS Class for the Gp interface	M117440534.S117452820	Sum	hustrafbh, Sum
Kbytes_of_DL_conv_class_on_Gp	ACCUMULATION	INT8	Number of forwarded bytes on the Downlink for the Conversational QoS Class for the Gp interface	M117440534.S117452814	Sum	hustrafbh, Sum
Kbytes_of_DL_interactive_class_on_Gp	ACCUMULATION	INT8	Number of forwarded bytes on the Uplink for the Interactive QoS Class for the Gp interface	M117440534.S117452818	Sum	hustrafbh, Sum

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Kbytes_of_UL_background_class_on_Gp	ACCUMULATION	INT8	Number of forwarded bytes on the Uplink for the Background QoS Class for the Gp interface	M117440534.S117452828	Sum	hustrafbh, Sum
Kbytes_of_UL_conv_class_on_Gp	ACCUMULATION	INT8	Number of forwarded bytes on the Uplink for the Conversational QoS Class for the Gp interface	M117440534.S117452822	Sum	hustrafbh, Sum
Kbytes_of_UL_Interac_class_on_Gp	ACCUMULATION	INT8	Number of forwarded bytes on the Uplink for the Interactive QoS Class for the Gp interface	M117440534.S117452826	Sum	hustrafbh, Sum
Kbytes_of_UL_streaming_class_on_Gp	ACCUMULATION	INT8	Number of forwarded bytes on the Uplink for the Streaming QoS Class for the Gp interface	M117440534.S117452824	Sum	hustrafbh, Sum
Kbytes_on_DL_streaming_class_for_Gp	ACCUMULATION	INT8	Number of forwarded packets on the Downlink for the Streaming QoS Class for the Gp interface	M117440534.S117452816	Sum	hustrafbh, Sum
Pkts_of_DL_background_class_on_Gp	ACCUMULATION	INTEGER	Number of forwarded packets on the Downlink for the Background QoS Class for the Gp interface	M117440534.S117452819	Sum	hustrafbh, Sum

Pkts_of_DL_conv_class_on_Gp	ACCUMULATION	INTEGER	Number of forwarded packets on the Downlink for the conversational QoS Class for the Gp interface	M117440534.S117452813	Sum	hustrafbh, Sum
Pkts_of_DL_interactive_class_on_Gp	ACCUMULATION	INTEGER	Number of forwarded packets on the Uplink for the Interactive QoS Class for the Gp interface	M117440534.S117452817	Sum	hustrafbh, Sum
Pkts_of_DL_streaming_class_on_Gp	ACCUMULATION	INTEGER	Number of forwarded packets on the Downlink for the Streaming QoS Class for the Gp interface	M117440534.S117452815	Sum	hustrafbh, Sum
Pkts_of_UL_background_class_on_Gp	ACCUMULATION	INTEGER	Number of forwarded packets on the Uplink for the Background QoS Class for the Gp interface	M117440534.S117452827	Sum	hustrafbh, Sum
Pkts_of_UL_conv_class_on_Gp	ACCUMULATION	INTEGER	Number of forwarded packets on the Uplink for the Conversational QoS Class for the Gp interface	M117440534.S117452821	Sum	hustrafbh, Sum
Pkts_of_UL_interactive_class_	ACCUMULATION	INTEGER	Number of forwarded	M117440534.S117452825	Sum	hustrafbh, Sum

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on_Gp			packets on the Uplink for the Interactive QoS Class for the Gp interface			
Pkts_of_UL_streaming_class_on_Gp	ACCUMULATION	INTEGER	Number of forwarded packets on the Uplink for the Streaming QoS Class for the Gp interface	M117440534.S117452823	Sum	hustrafbh, Sum
QoS1_pkts_dropped_due_queue_overflow_Gp	ACCUMULATION	INTEGER	Number of Conversational class data packets discarded by the SGSN due to queue overflow on Gp interface	M117440534.S117452834	Sum	hustrafbh, Sum
QoS2_pkts_dropped_due_queue_overflow_Gp	ACCUMULATION	INTEGER	Number of Streaming class data packets discarded by the SGSN due to queue overflow on Gp interface	M117440534.S117452835	Sum	hustrafbh, Sum
QoS3_pkts_dropped_due_queue_overflow_Gp	ACCUMULATION	INTEGER	Number of Interactive class data packets discarded by the SGSN due to queue overflow on Gp interface	M117440534.S117452836	Sum	hustrafbh, Sum
QoS4_pkts_dropped_due_queue_overflow_Gp	ACCUMULATION	INTEGER	Number of Background class data packets discarded by the SGSN due to queue overflow on Gp interface	M117440534.S117452837	Sum	hustrafbh, Sum

7.31.35SGSN.Huawei.GPRS.GTPU_Message_Processing

GTPU Message Processing measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
Echo_req_pkts_received_from_Gn_Gp	ACCUMULATION	INTEGER	Number of echo request message packets received from the GGSN.	M117440538.S117453222	Sum	hustrafbh, Sum
Echo_req_pkts_sent_to_Gn_Gp	ACCUMULATION	INTEGER	Number of echo request message packets sent to the GGSN.	M117440538.S117453223	Sum	hustrafbh, Sum
Error_GTP_U_Message_pkts_rec	ACCUMULATION	INTEGER	Number of invalid message packets received from the Gn/Gp interface.	M117440538.S117453220	Sum	hustrafbh, Sum
Error_indication_msg_received_from_GGSN	ACCUMULATION	INTEGER	Number of error indication message packets received from the GGSN.	M117440538.S117453221	Sum	hustrafbh, Sum
Error_indication_pkts_sent	ACCUMULATION	INTEGER	Number of error indication message sent to the GGSN.	M117440538.S117453224	Sum	hustrafbh, Sum
GGSN_GTPU_V0_normal_path_no	INTENSITY	INTEGER	GGSN GTPU V0 normal path numbers	M117440538.S117453227	Average	Average, hustrafbh, Maximum,

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						Minimum, Sum
GGSN_GTPU_V1_normal_path_no	INTENSITY	INTEGER	GGSN GTPU V1 normal path numbers	M117440538.S117453228	Average	Average, hustrafbh, Maximum, Minimum, Sum
GTP_U_msg_pkts_rec	ACCUMULATION	INTEGER	Number of non-T-PDU packets received from the Gn/Gp interface.	M117440538.S117453213	Sum	hustrafbh, Sum
GTP_U_msg_pkts_sent	ACCUMULATION	INTEGER	Number of non-T-PDU packets sent to the Gn/Gp interface.	M117440538.S117453214	Sum	hustrafbh, Sum
Overflow_msg_sent	ACCUMULATION	INTEGER	Number of message packets discarded due to cache overflow.	M117440538.S117453219	Sum	hustrafbh, Sum
Path_management_msg_rec	ACCUMULATION	INTEGER	Number of path management message packets received from the Gn/Gp interface.	M117440538.S117453215	Sum	hustrafbh, Sum
Path_management_msg_sent	ACCUMULATION	INTEGER	Number of path management message packets sent to the Gn/Gp interface.	M117440538.S117453216	Sum	hustrafbh, Sum
SG_GTPU_V0_normal_path_no	INTENSITY	INTEGER	SGSN GTPU V0 normal path	M117440538.S117453225	Average	Average, hustrafbh

			numbers			, Maximum, Minimum, Sum
SG_GTPU_V1_normal_path_no	INTENSITY	INTEGER	SGSN GTPU V1 normal path numbers	M117440538.S117453226	Average	Average, hustrafbh, Maximum, Minimum, Sum
Tunnel_management_msg_rec	ACCUMULATION	INTEGER	Number of tunnel management message packets sent to the Gn/Gp interface.	M117440538.S117453218	Sum	hustrafbh, Sum
Tunnel_management_msg_sent	ACCUMULATION	INTEGER	Number of tunnel management message packets received from the Gn/Gp interface.	M117440538.S117453217	Sum	hustrafbh, Sum

7.31.36SGSN.Huawei.GPRS.GTPU_Unknown_Interface

GTPU Unknown Interface measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
Echo_req_pkts_rec_by_SGSN	ACCUMULATION	INTEGER	Number of GTP Echo Request PDUs received by SGSN on the	M117440535.S117452930	Sum	hustrafbh, Sum

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			unknown interface			
Echo_req_pkts_sended_by_SGSN	ACCUMULATION	INTEGER	Number of GTP Echo Request PDUs transmitted by SGSN on the unknown interface	M117440535.S117452931	Sum	hustrafbh, Sum
Error_ind_pkts_sended_by_SGSN	ACCUMULATION	INTEGER	Number of GTP Error Indication PDUs sent by SGSN	M117440535.S117452932	Sum	hustrafbh, Sum
GTPU_kb_dropped_due_del_PDP_ctxt	ACCUMULATION	INT8	Number of data bytes discarded by SGSN due to the associated PDP context being deleted on the unknown interface	M117440535.S117452944	Sum	hustrafbh, Sum
GTPU_kb_dropped_due_unkn_TEID_TID	ACCUMULATION	INT8	Number of data bytes discarded by SGSN due to the TEID/TID in the GTP header being unknown on the unknown interface	M117440535.S117452942	Sum	hustrafbh, Sum
GTPU_pkts_discarded_by_SGSN	ACCUMULATION	INTEGER	Number of GTP-U packets dropped at the receiving point of the unknown interface	M117440535.S117452933	Sum	hustrafbh, Sum
GTPU_pkts_dropped_due_del_PDP_ctxt	ACCUMULATION	INTEGER	Number of data packets discarded by SGSN due to the associated PDP context	M117440535.S117452943	Sum	hustrafbh, Sum

			being deleted on the unknown interface			
GTPU_pkts_dropped_due_to_msg_short	ACCUMULATION	INTEGER	Number of GTP-U PDUs discarded by SGSN due to the message being too short on the unknown interface	M117440535.S117452938	Sum	hustrafbh, Sum
GTPU_pkts_dropped_due_to_unexp_msg	ACCUMULATION	INTEGER	Number of GTP-U PDUs discarded by SGSN due to the message being expected on the unknown interface	M117440535.S117452940	Sum	hustrafbh, Sum
GTPU_pkts_dropped_due_to_unkn_msg	ACCUMULATION	INTEGER	Number of GTP-U PDUs discarded by SGSN due to the message being unknown on the unknown interface	M117440535.S117452939	Sum	hustrafbh, Sum
GTPU_pkts_dropped_due_unkn_TEID_TID	ACCUMULATION	INTEGER	Number of GTP-U PDUs discarded by SGSN due to the TEID/TID in the GTP header being unknown on the unknown interface	M117440535.S117452941	Sum	hustrafbh, Sum
GTPU_pkts_re	ACCUMULA	INTEG	Total number of	M117440535.S117	Sum	hustrafbh

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c_by_SGSN	TION	ER	GTP-U packets (including corrupted packets) received by the SGSN at the unknown interface	452929		, Sum
Kbytes_of_DL_background_class	ACCUMULATION	INT8	Number of forwarded bytes on the Downlink for the Background QoS Class for the unknown interface	M117440535.S117452920	Sum	hustrafbh, Sum
Kbytes_of_DL_conv_class	ACCUMULATION	INT8	Number of forwarded bytes on the Downlink for the Conversational QoS Class for the unknown interface	M117440535.S117452914	Sum	hustrafbh, Sum
Kbytes_of_DL_interactive_class	ACCUMULATION	INT8	Number of forwarded bytes on the Uplink for the Interactive QoS Class for the unknown interface	M117440535.S117452918	Sum	hustrafbh, Sum
Kbytes_of_DL_streaming_class	ACCUMULATION	INT8	Number of forwarded bytes on the Downlink for the Streaming QoS Class for the unknown interface	M117440535.S117452916	Sum	hustrafbh, Sum
Kbytes_of_UL_background_cl	ACCUMULATION	INT8	Number of forwarded bytes	M117440535.S117452928	Sum	hustrafbh, Sum

ass			on the Uplink for the Background QoS Class for the unknown interface			
Kbytes_of_UL_conv_class	ACCUMULATION	INT8	Number of forwarded bytes on the Uplink for the Conversational QoS Class for the unknown interface	M117440535.S117452922	Sum	hustrafbh, Sum
Kbytes_of_UL_interactive_class	ACCUMULATION	INT8	Number of forwarded bytes on the Uplink for the Interactive QoS Class for the unknown interface	M117440535.S117452926	Sum	hustrafbh, Sum
Kbytes_of_UL_streaming_class	ACCUMULATION	INT8	Number of forwarded bytes on the Uplink for the Streaming QoS Class for the unknown interface	M117440535.S117452924	Sum	hustrafbh, Sum
Pkts_of_DL_background_class	ACCUMULATION	INTEGER	Number of forwarded packets on the Downlink for the Background QoS Class for the unknown interface	M117440535.S117452919	Sum	hustrafbh, Sum

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Pkts_of_DL_conv_class	ACCUMULATION	INTEGER	Number of forwarded packets on the Downlink for the conversational QoS Class for the unknown interface	M117440535.S117452913	Sum	hustrafbh, Sum
Pkts_of_DL_interactive_class	ACCUMULATION	INTEGER	Number of forwarded packets on the Uplink for the Interactive QoS Class for the unknown interface	M117440535.S117452917	Sum	hustrafbh, Sum
Pkts_of_the_DL_streaming_class	ACCUMULATION	INTEGER	Number of forwarded packets on the Downlink for the Streaming QoS Class for the unknown interface	M117440535.S117452915	Sum	hustrafbh, Sum
Pkts_of_UL_background_class	ACCUMULATION	INTEGER	Number of forwarded packets on the Uplink for the Background QoS Class for the unknown interface	M117440535.S117452927	Sum	hustrafbh, Sum
Pkts_of_UL_conv_class	ACCUMULATION	INTEGER	Number of forwarded packets on the Uplink for the Conversational QoS Class for the unknown interface	M117440535.S117452921	Sum	hustrafbh, Sum
Pkts_of_UL_interactive_class	ACCUMULATION	INTEGER	Number of forwarded	M117440535.S117452925	Sum	hustrafbh, Sum

			packets on the Uplink for the Interactive QoS Class for the unknown interface			
Pkts_of_UL_streaming_class	ACCUMULATION	INTEGER	Number of forwarded packets on the Uplink for the Streaming QoS Class for the unknown interface	M117440535.S117452923	Sum	hustrafbh, Sum
QoS1_pkts_drop_due_queue_overflow_UIF	ACCUMULATION	INTEGER	Number of Conversational class data packets discarded by the SGSN due to queue overflow on the unknown interface	M117440535.S117452934	Sum	hustrafbh, Sum
QoS2_pkts_drop_due_queue_overflow_UIF	ACCUMULATION	INTEGER	Number of Streaming class data packets discarded by the SGSN due to queue overflow on the unknown interface	M117440535.S117452935	Sum	hustrafbh, Sum
QoS3_pkts_drop_due_queue_overflow_UIF	ACCUMULATION	INTEGER	Number of Interactive class data packets discarded by the SGSN due to queue overflow on the unknown interface	M117440535.S117452936	Sum	hustrafbh, Sum

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QoS4_pkts_drop_due_queue_overflow_UIF	ACCUMULATION	INTEGER	Number of Background class data packets discarded by the SGSN due to queue overflow on the unknown interface	M117440535.S117452937	Sum	hustrafbh, Sum

7.31.37SGSN.Huawei.GPRS.Inter_System_Switch

Inter System Switch measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
_%_Intra_SGSN_GSM_to_UMTS_change_suc	PERCENTAGE	FLOAT	Percentage of successful 2G-3G system changes within SGSN.	100 * {Intra_SGSN_GSM_to_UMTS_change_suc}/ {Intra_SGSN_GSM_to_UMTS_change_req}	Average	Average, hustrafbh
_%_Intra_SGSN_UMTS_to_GSM_change_suc	PERCENTAGE	FLOAT	Percentage of successful 3G-2G changes within SGSN.	100 * {Intra_SGSN_UMTS_to_GSM_change_suc}/ {Intra_SGSN_UMTS_to_GSM_change_req}	Average	Average, hustrafbh
Intra_GBIu_change_noPDP_acc	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Number of successful Intra-SGSN Gb to Iu change without PDP	M117440580.S117457421	Sum	hustrafbh, Sum
Intra_SGSN_GSM_to_UMTS_change_req	ACCUMULATION	INTEGER	Number of received requests for	M117440580.S117457413	Sum	hustrafbh, Sum

			2G-3G change within SGSN			
Intra_SGSN_GSM_to_UMTS_change_suc	ACCUMULATION	INTEGER	Number of successful 2G-3G system changes within SGSN.	M117440580.S117457414	Sum	hustrafbh, Sum
Intra_SGSN_UMTS_to_GSM_change_req	ACCUMULATION	INTEGER	Number of requests for received 3G-2G system change within SGSN.	M117440580.S117457415	Sum	hustrafbh, Sum
Intra_SGSN_UMTS_to_GSM_change_suc	ACCUMULATION	INTEGER	Number of successful 3G-2G changes within SGSN.	M117440580.S117457416	Sum	hustrafbh, Sum
IntraSG_Gb_to_change_noPDP_rej	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Number of rejected Intra-SGSN Gb to Iu change without PDP	M117440580.S117457422	Sum	hustrafbh, Sum
IntraSG_Gb_to_change_noPDP_req	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Number of Intra-SGSN Gb to Iu change without PDP request	M117440580.S117457420	Sum	hustrafbh, Sum
IntraSG_GBIu_change_PDP_accept	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022:	M117440580.S117457418	Sum	hustrafbh, Sum

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			Number of successful Intra-SGSN Gb to Iu change with PDP			
IntraSG_GBIu_change_PDP_rej	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Number of rejected Intra-SGSN Gb to Iu change with PDP	M117440580.S117457419	Sum	hustrafbh, Sum
IntraSG_GBIu_change_PDP_req	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Number of Intra-SGSN Gb to Iu change with PDP request	M117440580.S117457417	Sum	hustrafbh, Sum
IntraSG_IuGB_change_noPDP_succ	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Number of successful Intra-SGSN Iu to Gb change without PDP	M117440580.S117457427	Sum	hustrafbh, Sum
IntraSG_IuGB_change_PDP_rej	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Number of rejected Intra-SGSN Iu to Gb change with PDP	M117440580.S117457425	Sum	hustrafbh, Sum
IntraSG_IuGB_change_PDP_	ACCUMULATION	INTEGER	Obsolete from CN-	M117440580.S117457423	Sum	hustrafbh, Sum

req			SGSN/V900R010.C01SPC022: Number of Intra-SGSN Iu to Gb change with PDP request			
IntraSG_IuGB_change_PDP_succ	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Number of successful Intra-SGSN Iu to Gb change with PDP	M117440580.S117457424	Sum	hustrafbh, Sum
IntraSG_to_Gb_change_noPDP_rej	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Number of rejected Intra-SGSN Iu to Gb change without PDP	M117440580.S117457428	Sum	hustrafbh, Sum
IntraSG_to_Gb_change_noPDP_req	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Number of Intra-SGSN Iu to Gb change without PDP request	M117440580.S117457426	Sum	hustrafbh, Sum

7.31.38SGSN.Huawei.GPRS.IP_NS

IP NS measurement

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KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators

NS_DL_data_kbytes_sent_to_IP	ACCUMULATION	INT8	DL data flow that the NS layer receives from the lower IP network layer.	M117440666.S117466016	Sum	hustrafbh, Sum
NS_DL_IP_data_kbytes_discarded	ACCUMULATION	INT8	DL IP data flow that is discarded by the NS layer.	M117440666.S117466020	Sum	hustrafbh, Sum
NS_DL_IP_pkts_discarded	ACCUMULATION	INTEGER	Number of DL IP data packets that are discarded by the NS layer.	M117440666.S117466019	Sum	hustrafbh, Sum
NS_DL_pkts_sent_to_IP	ACCUMULATION	INTEGER	Number of DL data packets that the NS layer sends to the lower IP network layer.	M117440666.S117466015	Sum	hustrafbh, Sum
NS_UL_data_kbytes_rec_from_IP	ACCUMULATION	INT8	UL data flow that the NS layer receives from the lower IP network layer.	M117440666.S117466014	Sum	hustrafbh, Sum
NS_UL_IP_data_kbytes_discarded	ACCUMULATION	INT8	UL IP data flow that is discarded by the NS layer.	M117440666.S117466018	Sum	hustrafbh, Sum
NS_UL_IP_pkts_discarded	ACCUMULATION	INTEGER	Number of UL IP data packets that are discarded by the NS layer.	M117440666.S117466017	Sum	hustrafbh, Sum
NS_UL_pkts_rec_from_IP	ACCUMULATION	INTEGER	Number of UL data packets that the NS	M117440666.S117466013	Sum	hustrafbh, Sum

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			layer receives from the lower IP network layer.			

7.31.39SGSN.Huawei.GPRS.IPSec

IPSec measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
AH_discarded_msg_replay	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Number of AH messages discarded due to replay during reception.	M117440529.S117452319	Sum	hustrafbh, Sum
AH_input_msg_discarded	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Number of AH messages discarded during reception.	M117440529.S117452323	Sum	hustrafbh, Sum
AH_msg_discarded_breach_of_security_policy	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Number of AH messages discarded as per the security policy during reception.	M117440529.S117452329	Sum	hustrafbh, Sum
AH_msg_discarded_errored_header	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R0	M117440529.S117452313	Sum	hustrafbh, Sum

			10.C01SPC022: Number of AH messages discarded due to header error during transmission and reception.			
AH_msg_discarded_errored_verification_word_len	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Number of AH messages discarded due to wrong verification word length during reception.	M117440529.S117452320	Sum	hustrafbh, Sum
AH_msg_discarded_fULl_IPSEC_queue	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Number of AH messages discarded due to full IPSec queue during transmission and reception.	M117440529.S117452317	Sum	hustrafbh, Sum
AH_msg_discarded_invalid_security_association	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Number of AH messages discarded due to the use of invalid security	M117440529.S117452325	Sum	hustrafbh, Sum

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			association during reception.			
AH_msg_discarded_lack_of_conversation_mode	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Number of AH messages discarded due to no available transform name during reception.	M117440529.S117452316	Sum	hustrafbh, Sum
AH_msg_discarded_lack_of_security_association	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Number of AH messages discarded due no available security association during transmission and reception.	M117440529.S117452314	Sum	hustrafbh, Sum
AH_msg_discarded_seq_No_rolling_over_back_to_0	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Number of AH messages discarded because the sequence No. rolls back to 0 during transmission and reception.	M117440529.S117452318	Sum	hustrafbh, Sum
AH_msg_discarded_too_long_IP	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R0	M117440529.S117452328	Sum	hustrafbh, Sum

			10.C01SPC022: Number of AH messages discarded due to IP message overlength during transmission.			
AH_msg_discarded_verification_fail	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Number AH messages discarded due to verification failure during reception.	M117440529.S117452315	Sum	hustrafbh, Sum
AH_msg_inputed	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Number of AH messages received.	M117440529.S117452321	Sum	hustrafbh, Sum
AH_msg_kbytes_inputed	ACCUMULATION	INT8	Obsolete from CN-SGSN/V900R010.C01SPC022: The Kbytes of AH messages received.	M117440529.S117452326	Sum	hustrafbh, Sum
AH_msg_kbytes_outputed	ACCUMULATION	INT8	Obsolete from CN-SGSN/V900R010.C01SPC022: The Kbytes of AH messages transmitted.	M117440529.S117452327	Sum	hustrafbh, Sum

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AH_msg_outputed	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Number of AH messages transmitted.	M117440529.S117452322	Sum	hustrafbh, Sum
AH_output_msg_discarded	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Number of AH messages discarded during transmission.	M117440529.S117452324	Sum	hustrafbh, Sum
Compr_IP_pkts_disc_due_inv_policy	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Number of input compressed IP packets discarded due to invalid policy.	M117440529.S117452364	Sum	hustrafbh, Sum
Compr_IP_pkts_disc_due_oversize	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Number of output compressed IP packets discarded due to oversize length.	M117440529.S117452363	Sum	hustrafbh, Sum
Compr_IP_pkts_discard_due_head_err	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Number of compressed IP packets	M117440529.S117452358	Sum	hustrafbh, Sum

			discarded due to packet head error.			
Compr_IP_pkts_dropped_null_mode	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Number of input compressed IP packets due to null transform mode.	M117440529.S117452360	Sum	hustrafbh, Sum
ESP_discarded_msg_replay	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Number of ESP messages discarded due to replay during reception.	M117440529.S117452337	Sum	hustrafbh, Sum
ESP_input_msg_discarded	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Number of ESP messages discarded during reception.	M117440529.S117452340	Sum	hustrafbh, Sum
ESP_msg_discarded_breach_of_security_policy	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Number of ESP messages discarded as per the security	M117440529.S117452346	Sum	hustrafbh, Sum

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			policy during reception.			
ESP_msg_discarded_errored_header	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Number of ESP messages discarded due to header error during transmission and reception.	M117440529.S117452330	Sum	hustrafbh, Sum
ESP_msg_discarded_fULl_IPSEC_queue	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Number of ESP messages discarded because the IPSec queue is full during transmission and reception.	M117440529.S117452334	Sum	hustrafbh, Sum
ESP_msg_discarded_invalid_security_association	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Number of ESP messages discarded due to the use of invalid security association during reception.	M117440529.S117452342	Sum	hustrafbh, Sum
ESP_msg_discarded_lack_of_conversation_mode	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Number of ESP messages	M117440529.S117452333	Sum	hustrafbh, Sum

			discarded due to no corresponding transform name during reception.			
ESP_msg_discarded_lack_of_security_association	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Number of ESP messages discarded due to no available security association during transmission and reception.	M117440529.S117452331	Sum	hustrafbh, Sum
ESP_msg_discarded_length_error	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Number of ESP messages discarded due to wrong message length during reception.	M117440529.S117452336	Sum	hustrafbh, Sum
ESP_msg_discarded_seq_No_roll_over_back_to_0	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Number of ESP messages discarded because the sequence No. rolls back to 0 during	M117440529.S117452335	Sum	hustrafbh, Sum

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			transmission and reception.			
ESP_msg_discarded_too_long_IP	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Number of ESP messages discarded due to IP message overlength during transmission.	M117440529.S117452345	Sum	hustrafbh, Sum
ESP_msg_discarded_verification_fail	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Number of ESP messages discarded due to verification failure during reception.	M117440529.S117452332	Sum	hustrafbh, Sum
ESP_msg_inputed	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Number of ESP messages received.	M117440529.S117452338	Sum	hustrafbh, Sum
ESP_msg_kbytes_inputed	ACCUMULATION	INT8	Obsolete from CN-SGSN/V900R010.C01SPC022: The Kbytes of ESP messages received.	M117440529.S117452343	Sum	hustrafbh, Sum
ESP_msg_kbytes_outputed	ACCUMULATION	INT8	Obsolete from CN-SGSN/V900R010.C01SPC022: The Kbytes of ESP messages	M117440529.S117452344	Sum	hustrafbh, Sum

			transmitted.			
ESP_msg_outputed	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Number of ESP messages transmitted.	M117440529.S117452339	Sum	hustrafbh, Sum
ESP_output_msg_discarded	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Number of ESP messages discarded during transmission.	M117440529.S117452341	Sum	hustrafbh, Sum
IKE_pkts_disced_due_to_USEC_fault	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Number of IKE packets discarded due to USEC fault.	M117440529.S117452368	Sum	hustrafbh, Sum
IKE_pkts_forwarded_to_USEC_by_UGTP	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Number of IKE packets forwarded from the UGTP to the USEC.	M117440529.S117452373	Sum	hustrafbh, Sum
IKE_pkts_rec_from_USEC_by_UGTP	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022:	M117440529.S117452374	Sum	hustrafbh, Sum

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			Number of UGTP-received IKE packets from the USEC.			
In_Compr_IP_pkts_dropped_length_err	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Number of compressed IP packets received but discarded due to length error.	M117440529.S117452361	Sum	hustrafbh, Sum
In_pkts_forwarded_to_USEC_by_UGTP	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Number of input packets forwarded from UGTP to the USEC.	M117440529.S117452369	Sum	hustrafbh, Sum
Inbound_Compr_IP_pkts_in_kilobyte	ACCUMULATION	INT8	Obsolete from CN-SGSN/V900R010.C01SPC022: Number of compressed IP packets (in kilobytes) input.	M117440529.S117452353	Sum	hustrafbh, Sum
Inbound_Compr_IP_pkts	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Number of compressed IP packets input.	M117440529.S117452351	Sum	hustrafbh, Sum
Inbound_pkts_disc_due_USEC_fault	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Number of	M117440529.S117452366	Sum	hustrafbh, Sum

			input compressed IP packets discarded due to USEC fault.			
Inbound_pkts_rec_from_USEC_by_UGTP	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Number of UGTP-received input packets processed by the USEC	M117440529.S117452371	Sum	hustrafbh, Sum
IP_pkts_discarded_due_null_compr_SA	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Number of input and output IP packets discarded due to null compression SA.	M117440529.S117452359	Sum	hustrafbh, Sum
IP_pkts_dropped_due_decompr_error	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Number of compressed IP packets discarded due to decompression error.	M117440529.S117452357	Sum	hustrafbh, Sum
IP_pkts_dropped_due_inv_compr_SA	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022:	M117440529.S117452362	Sum	hustrafbh, Sum

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			Number of input compressed IP packets discarded due to invalid compression SA.			
IPSEC_input_msg_discarded	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Number of IPSec messages discarded during transmission.	M117440529.S117452350	Sum	hustrafbh, Sum
IPSEC_output_msg_discarded	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Number of IPSec messages discarded during reception.	M117440529.S117452349	Sum	hustrafbh, Sum
Msg_discarded_unspecified_IPSec_protocol_No	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: The messages discarded and with unidentified IP Sec protocol No. during reception.	M117440529.S117452347	Sum	hustrafbh, Sum
Out_pkts_disc_due_USEC_fault	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Number of output	M117440529.S117452367	Sum	hustrafbh, Sum

			compressed IP packets discarded due to USEC fault.			
Out_pkts_forwarded_to_USEC_by_UGTP	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Number of output packets that require IPSec processing forwarded from the UGTP to the USEC.	M117440529.S117452370	Sum	hustrafbh, Sum
Outbound_Compr_IP_pkts_in_kilobyte	ACCUMULATION	INT8	Obsolete from CN-SGSN/V900R010.C01SPC022: Number of compressed IP packets (in kilobytes) output.	M117440529.S117452354	Sum	hustrafbh, Sum
Outbound_Compr_IP_pkts	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Number of compressed IP packets output.	M117440529.S117452352	Sum	hustrafbh, Sum
Outbound_pkts_rec_from_USEC_by_UGTP	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Number of UGTP-received output packets	M117440529.S117452372	Sum	hustrafbh, Sum

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			processed by the USEC.			
Output_msg_unspecified_IPSec_protocol_No	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: The messages discarded and with unidentified IP Sec protocol No. during transmission.	M117440529.S117452348	Sum	hustrafbh, Sum
Pkts_disc_unknown_protocol_dir	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Number of compressed IP packets discarded due to unknown protocol and direction.	M117440529.S117452365	Sum	hustrafbh, Sum
Sum_of_input_Compr_IP_pkts_dropped	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Number of compressed IP packets input but discarded.	M117440529.S117452355	Sum	hustrafbh, Sum
Sum_of_output_Compr_IP_pkts_dropped	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Number of compressed IP packets output but discarded.	M117440529.S117452356	Sum	hustrafbh, Sum

7.31.40SGSN.Huawei.GPRS.Iu_mode_APN_correction

APN correction measurement in Iu mode.

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
_3G_APN_replace_to_default_APN	ACCUMULATION	INTEGER	Times of APN replacement to default APN in 3G procedure.	M117440681.S117470116	Sum	hustrafbh, Sum
_3G_APN_replace_to_subscribed_APN	ACCUMULATION	INTEGER	Times of APN replacement to subscribed APN in 3G procedure.	M117440681.S117470115	Sum	hustrafbh, Sum
_3G_MS_act_with_blank_APN	ACCUMULATION	INTEGER	Times of blank APN carried in the 3G MS init act request.	M117440681.S117470114	Sum	hustrafbh, Sum
_3G_MS_act_with_incorrect_APN	ACCUMULATION	INTEGER	Times of incorrect APN carried in the 3G MS init act request.	M117440681.S117470113	Sum	hustrafbh, Sum

7.31.41SGSN.Huawei.GPRS.Iu_Mode_Attach

Iu Mode Attach measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
_%_Combined_attach_accept	PERCENTAGE	FLOAT	Percentage of GPRS/IMSI attachment successes within the SGSN.	100 * {Combined_attach_accept}/ {Combined_attach_request}	Average	Average, hustrafbh

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_%_GPRS_attach_success	PERCENTAGE	FLOAT	Percentage of GPRS attachment successes within the SGSN.	100 * {GPRS_attach_success}/ {GPRS_attach_request}	Average	Average, hustrafbh
Att_rej_IMSI_roam_not_allow_LA	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022 :Number of Iu mode IMSI-attached GPRS attach reject(roaming not allowed in LA)	M117440572.S117456666	Sum	hustrafbh, Sum
Attach_reject_Ge_fail	ACCUMULATION	INTEGER	Number of GPRS attachment failures within SGSN due to Ge protocol error.	M117440572.S117456621	Sum	hustrafbh, Sum
Attach_reject_Gr_fail	ACCUMULATION	INTEGER	Number of GPRS attachment failures within SGSN due to Gr protocol error.	M117440572.S117456620	Sum	hustrafbh, Sum
Attach_reject_LA_not_allowed	ACCUMULATION	INTEGER	Number of GPRS attachment rejects due to Location Area not allowed.	M117440572.S117456616	Sum	hustrafbh, Sum
Attach_reject_protocol_error	ACCUMULATION	INTEGER	Number of GPRS attachment failures within SGSN due to protocol error.	M117440572.S117456619	Sum	hustrafbh, Sum

Attach_reject_srvc_not_allowed	ACCUMULATION	INTEGER	Number of GPRS attachment failures within SGSN due to GPRS services not allowed.	M117440572.S117456618	Sum	hustrafbh, Sum
Attach_reject_times_illegal_ME	ACCUMULATION	INTEGER	Number of GPRS attachment failures within SGSN due to illegal ME.	M117440572.S117456617	Sum	hustrafbh, Sum
Com_Att_rej_roam_not_allow_LA	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022 :Number of Iu mode combined attach reject(roaming not allowed in LA)	M117440572.S117456665	Sum	hustrafbh, Sum
Comb_att_reject_Gprs_not_allowed	ACCUMULATION	INTEGER	Number of combined GPRS/IMSI attachment rejects due to GPRS service is not allowed in this PLMN.	M117440572.S117456644	Sum	hustrafbh, Sum
Comb_att_reject_no_suitable_cell	ACCUMULATION	INTEGER	Number of combined GPRS/IMSI attachment rejects due to no suitable Cells in LA.	M117440572.S117456645	Sum	hustrafbh, Sum

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Combined_att_reject_protocol_error	ACCUMULATION	INTEGER	Number of inter-SGSN combined RA/ LA update failures due to protocol error.	M117440572.S117456630	Sum	hustrafbh, Sum
Combined_att_reject_srvc_not_allow	ACCUMULATION	INTEGER	Number of inter-SGSN combined RA/ LA update failures due to GPRS service not allowed.	M117440572.S117456629	Sum	hustrafbh, Sum
Combined_attach_accept	ACCUMULATION	INTEGER	Number of GPRS/IMSI attachment successes within the SGSN.	M117440572.S117456623	Sum	hustrafbh, Sum
Combined_Attach_Complete_Times	INTENSITY	INTEGER	Number of combined attaches.	M117440572.S117456654	Average	Average, hustrafbh, Maximum, Minimum, Sum
Combined_attach_reject_Ge_fail	ACCUMULATION	INTEGER	Number of inter-SGSN combined RA/ LA update failures due to Ge protocol error.	M117440572.S117456632	Sum	hustrafbh, Sum
Combined_attach_reject_Gr_fail	ACCUMULATION	INTEGER	Number of inter-SGSN combined RA/ LA update failures due to Gr protocol error.	M117440572.S117456631	Sum	hustrafbh, Sum
Combined_attach_reject_illegal_	ACCUMULATION	INTEGER	Number of inter-SGSN	M117440572.S117456626	Sum	hustrafbh, Sum

ME			combined RA/ LA update failures due to illegal ME.			
Combined_attach_reject_illegal_MS	ACCUMULATION	INTEGER	Number of inter-SGSN combined RA/ LA update failures due to illegal mobile station.	M117440572.S117456624	Sum	hustrafbh, Sum
Combined_attach_reject_LA_not_allow	ACCUMULATION	INTEGER	Number of inter-SGSN combined RA/ LA update failures due to location area not allowed.	M117440572.S117456625	Sum	hustrafbh, Sum
Combined_attach_request	ACCUMULATION	INTEGER	Number of inter-SGSN combined RA/ LA update requests.	M117440572.S117456622	Sum	hustrafbh, Sum
Combined_Max_attach_time_delay	INTENSITY	INTEGER	Maximum duration of the combined attach.	M117440572.S117456652	Average	Average, hustrafbh, Maximum, Minimum, Sum
Combined_Mean_attach_time_delay	INTENSITY	FLOAT	Average duration of the combined attach based on all subscribers.	M117440572.S117456653	Average	Average, hustrafbh, Maximum, Minimum, Sum
Combined_Total	INTENSITY	INTEG	Total combined	M117440572.S117	Average	Average,

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_Attach_time_delay		ER	attach duration.	456655		hustrafbh, Maximum, Minimum, Sum
GPRS_att_aft_IMSI_attached_request	ACCUMULATION	INTEGER	Number of IMSI-attached GPRS attachment requests within the SGSN.	M117440572.S117456633	Sum	hustrafbh, Sum
GPRS_Att_rej_roam_not_allow_LA	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022 :Number of Iu mode GPRS attach reject(roaming not allowed in LA)	M117440572.S117456664	Sum	hustrafbh, Sum
GPRS_att_success_aft_IMSI_attached	ACCUMULATION	INTEGER	Number of IMSI-attached GPRS attachment successes within the SGSN.	M117440572.S117456634	Sum	hustrafbh, Sum
GPRS_Attach_Complete_Times	ACCUMULATION	INTEGER	Number of GPRS attaches.	M117440572.S117456650	Sum	hustrafbh, Sum
GPRS_attach_reject_Gprs_not_allowed	ACCUMULATION	INTEGER	Number of GPRS attachment rejects due to GPRS service is not allowed in this PLMN.	M117440572.S117456642	Sum	hustrafbh, Sum
GPRS_attach_reject_no_suitable_cell	ACCUMULATION	INTEGER	Number of GPRS attachment	M117440572.S117456643	Sum	hustrafbh, Sum

			rejects due to no suitable Cells in LA.			
GPRS_attach_reject_times_illegal_MS	ACCUMULATION	INTEGER	Number of GPRS attachment rejects due to illegal mobile station.	M117440572.S117456615	Sum	hustrafbh, Sum
GPRS_attach_request	ACCUMULATION	INTEGER	Number of GPRS attachment requests within the SGSN.	M117440572.S117456613	Sum	hustrafbh, Sum
GPRS_attach_success	ACCUMULATION	INTEGER	Number of GPRS attachment successes within the SGSN.	M117440572.S117456614	Sum	hustrafbh, Sum
GPRS_IMSI_attach_fail_MSC_unreach	ACCUMULATION	INTEGER	The number of times GPRS attachment succeeds but IMSI attachment fails (MSC presently unreachable).	M117440572.S117456628	Sum	hustrafbh, Sum
GPRS_IMSI_attach_fail_VLR_reject	ACCUMULATION	INTEGER	GPRS attachment succeeds while the IMSI attachment fails (rejected by VLR).	M117440572.S117456627	Sum	hustrafbh, Sum
GPRS_Max_attach_time_delay	INTENSITY	INTEGER	Maximum duration of the GPRS attach.	M117440572.S117456648	Average	Average, hustrafbh,

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						Maximum, Minimum, Sum
GPRS_Mean_attach_time_delay	INTENSITY	FLOAT	Average duration of the GPRS attach based on all subscribers.	M117440572.S117456649	Average	Average, hustrafbh, Maximum, Minimum, Sum
GPRS_Total_Attach_time_delay	ACCUMULATION	INTEGER	Total GPRS attach duration.	M117440572.S117456651	Sum	hustrafbh, Sum
IMSI_att_reject_Gprs_not_allowed	ACCUMULATION	INTEGER	Number of IMSI-attached GPRS attachment rejects due to GPRS service is not allowed in this PLMN.	M117440572.S117456646	Sum	hustrafbh, Sum
IMSI_att_reject_GPRS_srvc_not_allow	ACCUMULATION	INTEGER	Number of inter-SGSN combined RA/LA update failures due to implicitly detached.	M117440572.S117456638	Sum	hustrafbh, Sum
IMSI_att_reject_no_suitable_cell	ACCUMULATION	INTEGER	Number of IMSI-attached GPRS attachment rejects due to no suitable Cells in LA.	M117440572.S117456647	Sum	hustrafbh, Sum
IMSI_attached_GPRS_attach_complete	ACCUMULATION	INTEGER	Number of IMSI attached GPRS attaches.	M117440572.S117456658	Sum	hustrafbh, Sum
IMSI_attached_GPRS_attach_max_dur	INTENSITY	INTEGER	Maximum duration of the IMSI attached	M117440572.S117456656	Average	Average, hustrafbh,

			GPRS attach.			Maximum, Minimum, Sum
IMSI_attached_GPRS_attach_mean_dur	INTENSITY	FLOAT	Average duration of the IMSI attached GPRS attach based on all subscribers.	M117440572.S117456657	Average	Average, hustrafbh, Maximum, Minimum, Sum
IMSI_attached_GPRS_Attach_total_dur	ACCUMULATION	INTEGER	Total IMSI attached GPRS attach duration.	M117440572.S117456659	Sum	hustrafbh, Sum
IMSI_GPRS_att_reject_Ge_fail	ACCUMULATION	INTEGER	Number of IMSI-attached GPRS attachment failures within SGSN due to Ge protocol error.	M117440572.S117456641	Sum	hustrafbh, Sum
IMSI_GPRS_att_reject_Gr_fail	ACCUMULATION	INTEGER	Number of IMSI-attached GPRS attachment failures within SGSN due to Gr protocol error.	M117440572.S117456640	Sum	hustrafbh, Sum
IMSI_GPRS_att_reject_illegal_ME	ACCUMULATION	INTEGER	Number of IMSI-attached GPRS attachment failures within SGSN due to illegal ME.	M117440572.S117456637	Sum	hustrafbh, Sum
IMSI_GPRS_att	ACCUMULA	INTEG	Number of	M117440572.S117	Sum	hustrafbh

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_reject_illegal_MS	TION	ER	inter-SGSN combined RA/ LA update failures due to roaming not allowed in this Location area.	456635		, Sum
IMSI_GPRS_att_reject_LA_not_allow	ACCUMULATION	INTEGER	Number of IMSI-attached GPRS attachment rejects due to Location Area not allowed.	M117440572.S117456636	Sum	hustrafbh, Sum
IMSI_GPRS_att_reject_protocol_error	ACCUMULATION	INTEGER	Number of IMSI-attached GPRS attachment failures within SGSN due to protocol error.	M117440572.S117456639	Sum	hustrafbh, Sum
Iu_mode_max_combined_Att_req	INTENSITY	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022 :Maximum number of Iu mode combined attach request	M117440572.S117456662	Average	Average, hustrafbh, Maximum, Minimum, Sum
Iu_mode_max_GPRS_Att_req	INTENSITY	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022 :Maximum number of Iu mode GPRS attach request	M117440572.S117456661	Average	Average, hustrafbh, Maximum, Minimum, Sum
Max_GPRS_Att_req_IMSI_Attd	INTENSITY	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022 :Maximum	M117440572.S117456663	Average	Average, hustrafbh, Maximum,

			number of Iu mode GPRS attach request after IMSI attached			Minimum, Sum
USPU_drop_Att_req_pkt_flw_ctrl	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022 :USPU drop Attach request packets of 3G due to flow control	M117440572.S117456660	Sum	hustrafbh, Sum

7.31.42SGSN.Huawei.GPRS.Iu_Mode_Detach

Iu Mode Detach measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
_%_SGSN_init_detach_success	PERCENTAGE	FLOAT	Percentage of SGSN-initiated GPRS detachment successes.	100 * {SGSN_init_detach_success}/ {SGSN_init_detach_request}	Average	Average, hustrafbh
Detach_accept_message_sent	ACCUMULATION	INTEGER	Number of "detach accept" messages sent to MS.	M117440573.S117456719	Sum	hustrafbh, Sum
HLR_init_detach_request	ACCUMULATION	INTEGER	Number of detachment requests due to subscriber deletion by HLR.	M117440573.S117456718	Sum	hustrafbh, Sum
MS_init_comb	ACCUMULA	INTEG	Number of MS-	M117440573.S117	Sum	hustrafbh

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_detach_request	TION	ER	initiated requests for combined GPRS/IMSI detachment within the SGSN.	456714		, Sum
MS_init_GPRS_detach_request	ACCUMULATION	INTEGER	Number of MS-initiated requests for GPRS detachment within the SGSN.	M117440573.S117456713	Sum	hustrafbh, Sum
MS_init_IMSI_detach_request	ACCUMULATION	INTEGER	Number of MS-initiated requests for IMSI detachment within the SGSN.	M117440573.S117456715	Sum	hustrafbh, Sum
SGSN_init_detach_request	ACCUMULATION	INTEGER	Number of SGSN-initiated requests for GPRS detachment.	M117440573.S117456716	Sum	hustrafbh, Sum
SGSN_init_detach_success	ACCUMULATION	INTEGER	Number of SGSN-initiated GPRS detachment successes.	M117440573.S117456717	Sum	hustrafbh, Sum

7.31.43SGSN.Huawei.GPRS.Iu_Mode_Inter_SGSN_RAU

Iu Mode Inter SGSN RAU measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
_%_Com_RAU_success	PERCENTAGE	FLOAT	Percentage of successful combined	100 * {Com_RAU_success}/	Average	Average, hustrafbh

			inter-SGSN RAU updates.	{Com_RAU_request}		
_%_RAU_success	PERCENTAGE	FLOAT	Percentage of inter-SGSN RAU successes within this SGSN area.	100 * {RAU_success}/ {RAU_request}	Average	Average, hustrafbh
Com_RAU_reject_Ge_fail	ACCUMULATION	INTEGER	Number of inter-SGSN combined RA/ LA update failures due to Ge protocol error.	M117440575.S11 7456933	Sum	hustrafbh, Sum
Com_RAU_reject_Gprs_not_allowed	ACCUMULATION	INTEGER	Number of inter-SGSN combined RA/ LA update failures due to GPRS service is not allowed in this PLMN.	M117440575.S11 7456939	Sum	hustrafbh, Sum
Com_RAU_reject_GPRS_srvc_not_allow	ACCUMULATION	INTEGER	Number of inter-SGSN combined RA/ LA update failures due to GPRS service not allowed.	M117440575.S11 7456929	Sum	hustrafbh, Sum
Com_RAU_reject_Gr_fail	ACCUMULATION	INTEGER	Number of inter-SGSN combined RA/ LA update failures due to Gr protocol error.	M117440575.S11 7456932	Sum	hustrafbh, Sum
Com_RAU_reject_illegal_ME	ACCUMULATION	INTEGER	Number of inter-SGSN	M117440575.S11 7456928	Sum	hustrafbh, Sum

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			combined RA/ LA update failures due to illegal ME.			
Com_RAU_reject_illegal_MS	ACCUMULATION	INTEGER	Number of inter-SGSN combined RA/ LA update failures due to illegal mobile station.	M117440575.S117456926	Sum	hustrafbh, Sum
Com_RAU_reject_implicitly_detached	ACCUMULATION	INTEGER	Number of inter-SGSN combined RA/ LA update failures due to GPRS service implicitly detached.	M117440575.S117456930	Sum	hustrafbh, Sum
Com_RAU_reject_LA_not_allowed	ACCUMULATION	INTEGER	Number of inter-SGSN combined RA/ LA update failures due to location area not allowed.	M117440575.S117456927	Sum	hustrafbh, Sum
Com_RAU_reject_no_suitable_cell	ACCUMULATION	INTEGER	Number of inter-SGSN combined RA/ LA update failures due to no suitable Cells in LA.	M117440575.S117456940	Sum	hustrafbh, Sum
Com_RAU_reject_protocol_error	ACCUMULATION	INTEGER	Number of inter-SGSN combined RA/ LA update failures due to protocol error.	M117440575.S117456931	Sum	hustrafbh, Sum
Com_RAU_request	ACCUMULATION	INTEGER	Number of inter-SGSN combined RA/	M117440575.S117456924	Sum	hustrafbh, Sum

			LA update requests.			
Com_RAU_success	ACCUMULATION	INTEGER	Number of successful combined inter-SGSN RAU updates.	M117440575.S117456925	Sum	hustrafbh, Sum
Inter_2G3G_RAU_noPDP_accept	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022 :Number of successful Iu mode inter-SGSN 2G to 3G RAU without PDP	M117440575.S117456957	Sum	hustrafbh, Sum
Inter_2G3G_RAU_with_PDP_accept	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022 :Number of successful Iu mode inter-SGSN 2G to 3G RAU with PDP	M117440575.S117456954	Sum	hustrafbh, Sum
Inter_2G3G_RAU_with_PDP_rej	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022 :Number of rejected Iu mode inter-SGSN 2G to 3G RAU with PDP	M117440575.S117456955	Sum	hustrafbh, Sum
Inter_2G3G_RA	ACCUMULA	INTEG	Obsolete from	M117440575.S11	Sum	hustrafbh

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U_with_PDP_req	TION	ER	CN-SGSN/V900R010.C01SPC022:Number of Iu mode inter-SGSN 2G to 3G RAU with PDP request	7456953		, Sum
Inter_2G3G_RAU_without_PDP_rej	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022:Number of rejected Iu mode inter-SGSN 2G to 3G RAU without PDP	M117440575.S117456958	Sum	hustrafbh, Sum
Inter_2G3G_RAU_without_PDP_req	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022:Number of Iu mode inter-SGSN 2G to 3G RAU without PDP request	M117440575.S117456956	Sum	hustrafbh, Sum
Inter_3G3G_RAU_noPDP_accept	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022:Number of successful Iu mode inter-SGSN 3G to 3G RAU without PDP	M117440575.S117456966	Sum	hustrafbh, Sum
Inter_3G3G_RAU_with_PDP_accept	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022:Number of	M117440575.S117456963	Sum	hustrafbh, Sum

			successful Iu mode inter-SGSN 3G to 3G RAU with PDP			
Inter_3G3G_RAU_with_PDP_rej	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022 :Number of rejected Iu mode inter-SGSN 3G to 3G RAU with PDP	M117440575.S117456964	Sum	hustrafbh, Sum
Inter_3G3G_RAU_with_PDP_req	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022 :Number of Iu mode inter-SGSN 3G to 3G RAU with PDP request	M117440575.S117456962	Sum	hustrafbh, Sum
Inter_3G3G_RAU_without_PDP_rej	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022 :Number of rejected Iu mode inter-SGSN 3G to 3G RAU without PDP	M117440575.S117456967	Sum	hustrafbh, Sum
Inter_3G3G_RAU_without_PDP_req	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022 :Number of Iu	M117440575.S117456965	Sum	hustrafbh, Sum

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			mode inter-SGSN 3G to 3G RAU without PDP request			
Inter_IMSI_Atted_Com_RAU_succ	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022:Number of successful Iu mode inter-SGSN IMSI attached Com-RAU	M117440575.S117456947	Sum	hustrafbh, Sum
InterSG_2G_to_3G_RAU_accept	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022:Number of successful Iu mode inter-SGSN 2G to 3G RAU	M117440575.S117456950	Sum	hustrafbh, Sum
InterSG_2G_to_3G_RAU_rej	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022:Number of rejected Iu mode inter-SGSN 2G to 3G RAU	M117440575.S117456952	Sum	hustrafbh, Sum
InterSG_2G_to_3G_RAU_req	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022:Number of Iu mode inter-SGSN 2G to 3G RAU request	M117440575.S117456949	Sum	hustrafbh, Sum
InterSG_3G_to_	ACCUMULA	INTEG	Obsolete from	M117440575.S11	Sum	hustrafbh

3G_RAU_accept	TION	ER	CN-SGSN/V900R010.C01SPC022:Number of successful Iu mode inter-SGSN 3G to 3G RAU	7456960		, Sum
InterSG_3G_to_3G_RAU_rej	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022:Number of rejected Iu mode inter-SGSN 3G to 3G RAU	M117440575.S117456961	Sum	hustrafbh, Sum
InterSG_3G_to_3G_RAU_req	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022:Number of Iu mode inter-SGSN 3G to 3G RAU request	M117440575.S117456959	Sum	hustrafbh, Sum
InterSG_IMSI_Atted_Com_RAU_rej	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022:Number of rejected Iu mode inter-SGSN IMSI attached Com-RAU	M117440575.S117456948	Sum	hustrafbh, Sum
InterSG_IMSI_Atted_Com_RAU_req	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R0	M117440575.S117456946	Sum	hustrafbh, Sum

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			10.C01SPC022 :Number of Iu mode inter-SGSN IMSI attached Com-RAU request			
IntrComRAUrej_roam_notallow_LA	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022 :Number of rejected Iu mode inter-SGSN Com-RAU (roaming not allowed in LA)	M117440575.S117456951	Sum	hustrafbh, Sum
Iu_mode_max_inter_SG_RAU_req	INTENSITY	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022 :Maximum number of Iu mode inter-SGSN RAU request	M117440575.S117456944	Average	Average, hustrafbh, Maximum, Minimum, Sum
max_interSG_Com_RAU_req	INTENSITY	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022 :Maximum number of Iu mode inter-SGSN Com-RAU request	M117440575.S117456945	Average	Average, hustrafbh, Maximum, Minimum, Sum
RAU_accept_LAU_reject_MSC_unreach	ACCUMULATION	INTEGER	Number of times RAU is accepted but LAU fails due to MSC temporarily unreachable in the process of	M117440575.S117456934	Sum	hustrafbh, Sum

			combined inter-SGSN updates.			
RAU_accept_LAU_reject_VLR_reject	ACCUMULATION	INTEGER	Number of times RAU is accepted but LAU fails due to VLR reject in the process of combined inter-SGSN updates.	M117440575.S117456935	Sum	hustrafbh, Sum
RAU_complete_msg_rec	ACCUMULATION	INTEGER	Number of times inter-SGSN RAU is completed .	M117440575.S117456936	Sum	hustrafbh, Sum
RAU_reject_Ge_fail	ACCUMULATION	INTEGER	Number of inter-SGSN RAU failures due to Ge protocol error.	M117440575.S117456923	Sum	hustrafbh, Sum
RAU_reject_Gprs_not_allowed_in_PLMN	ACCUMULATION	INTEGER	Number of inter-SGSN RAU failures due to GPRS service is not allowed in this PLMN.	M117440575.S117456937	Sum	hustrafbh, Sum
RAU_reject_GPRS_service_not_allowed	ACCUMULATION	INTEGER	Number of inter-SGSN RAU failures due to GPRS service not allowed.	M117440575.S117456919	Sum	hustrafbh, Sum
RAU_reject_Gr_fail	ACCUMULATION	INTEGER	Number of inter-SGSN RAU failures due to Gr	M117440575.S117456922	Sum	hustrafbh, Sum

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			protocol error.			
RAU_reject_illegal_ME	ACCUMULATION	INTEGER	Number of inter-SGSN RAU failures due to illegal ME.	M117440575.S117456918	Sum	hustrafbh, Sum
RAU_reject_illegal_MS	ACCUMULATION	INTEGER	Number of inter-SGSN RAU failures due to illegal mobile station.	M117440575.S117456915	Sum	hustrafbh, Sum
RAU_reject_implicitly_detached	ACCUMULATION	INTEGER	Number of inter-SGSN RAU failures due to implicitly detached.	M117440575.S117456920	Sum	hustrafbh, Sum
RAU_reject_LA_not_allowed	ACCUMULATION	INTEGER	Number of inter-SGSN RAU failures due to location area not allowed.	M117440575.S117456916	Sum	hustrafbh, Sum
RAU_reject_no_suitable_cell_in_LA	ACCUMULATION	INTEGER	Number of inter-SGSN RAU failures due to no suitable Cells in LA.	M117440575.S117456938	Sum	hustrafbh, Sum
RAU_reject_protocol_error	ACCUMULATION	INTEGER	Number of inter-SGSN RAU failures due to protocol error.	M117440575.S117456921	Sum	hustrafbh, Sum
RAU_reject_roam_not_allow	ACCUMULATION	INTEGER	Number of inter-SGSN RAU failures due to roaming not allowed in this Location area.	M117440575.S117456917	Sum	hustrafbh, Sum

RAU_request	ACCUMULATION	INTEGER	Number of inter-SGSN RAU requests within the SGSN area.	M117440575.S117456913	Sum	hustrafbh, Sum
RAU_success	ACCUMULATION	INTEGER	Number of inter-SGSN RAU successes within this SGSN area.	M117440575.S117456914	Sum	hustrafbh, Sum
USPU_drop_RAUreq_noPDP_flwctrl	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022:USPU drop Inter RAU request without PDP packets of 3G due to flow control	M117440575.S117456943	Sum	hustrafbh, Sum

7.31.44SGSN.Huawei.GPRS.Iu_Mode_Intra_SGSN_RAU

Iu Mode Intra SGSN RAU measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
Com_RAU_reject_Ge_fail	ACCUMULATION	INTEGER	Number of intra-SGSN combined RA/LA update failures due to Ge protocol error.	M117440574.S117456828	Sum	hustrafbh, Sum
Com_RAU_reject_Gr_fail	ACCUMULATION	INTEGER	Number of intra-SGSN combined RA/LA update	M117440574.S117456827	Sum	hustrafbh, Sum

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			failures due to Gr protocol error.			
COM_RAU_reject_illegal_MS	ACCUMULATION	INTEGER	Number of intra-SGSN combined RA/ LA update failures due to illegal mobile station.	M117440574.S117456823	Sum	hustrafbh, Sum
Com_RAU_reject_implicitly_detached	ACCUMULATION	INTEGER	Number of intra-SGSN combined RA/ LA update failures due to implicitly detached.	M117440574.S117456825	Sum	hustrafbh, Sum
Com_RAU_reject_LA_not_allowed	ACCUMULATION	INTEGER	Number of intra-SGSN combined RA/ LA update failures due to location area not allowed.	M117440574.S117456824	Sum	hustrafbh, Sum
Com_RAU_reject_no_suitable_cell	ACCUMULATION	INTEGER	Number of intra-SGSN combined RA/ LA update failures due to no suitable Cells in LA.	M117440574.S117456833	Sum	hustrafbh, Sum
Com_RAU_reject_protocol_error	ACCUMULATION	INTEGER	Number of intra-SGSN combined RA/ LA update failures due to protocol error.	M117440574.S117456826	Sum	hustrafbh, Sum
COM_RAU_request_times	ACCUMULATION	INTEGER	Number of intra-SGSN combined RA/ LA update requests.	M117440574.S117456821	Sum	hustrafbh, Sum

COM_RAU_success_times	ACCUMULATION	INTEGER	Number of successful combined intra-SGSN RAU updates.	M117440574.S117456822	Sum	hustrafbh, Sum
Intra_3G3G_RAU_noPDP_accept	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022 :Number of successful Iu mode intra-SGSN 3G to 3G RAU without PDP	M117440574.S117456856	Sum	hustrafbh, Sum
Intra_3G3G_RAU_with_PDP_accept	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022 :Number of successful Iu mode intra-SGSN 3G to 3G RAU with PDP	M117440574.S117456855	Sum	hustrafbh, Sum
Intra_3G3G_RAU_with_PDP_rej	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022 :Number of rejected Iu mode intra-SGSN 3G to 3G RAU with PDP	M117440574.S117456851	Sum	hustrafbh, Sum
Intra_3G3G_RAU_with_PDP_req	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022	M117440574.S117456853	Sum	hustrafbh, Sum

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			:Number of Iu mode intra-SGSN 3G to 3G RAU with PDP request			
Intra_3G3G_RAU_without_PDP_rej	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022 :Number of rejected Iu mode intra-SGSN 3G to 3G RAU without PDP	M117440574.S117456852	Sum	hustrafbh, Sum
Intra_3G3G_RAU_without_PDP_req	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022 :Number of Iu mode intra-SGSN 3G to 3G RAU without PDP request	M117440574.S117456854	Sum	hustrafbh, Sum
IntraComRAUrej_roamNotAllow_LA	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022 :Number of rejected Iu mode intra-SGSN COM-RAU (roaming not allowed in LA)	M117440574.S117456850	Sum	hustrafbh, Sum
intraRAU_rej_roam_not_allow_LA	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022 :Number of rejected Iu mode intra-	M117440574.S117456849	Sum	hustrafbh, Sum

			SGSN RAU(roaming not allowed in LA)			
intraSG_IMSI_Attd_COM_RAU_succ	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022:Number of successful Iu mode intra-SGSN IMSI attached COM-RAU	M117440574.S117456847	Sum	hustrafbh, Sum
intraSG_IMSI_Atted_COM_RAU_rej	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022:Number of rejected Iu mode intra-SGSN IMSI attached COM-RAU	M117440574.S117456848	Sum	hustrafbh, Sum
intraSG_IMSI_Atted_COM_RAU_req	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022:Number of Iu mode intra-SGSN IMSI attached COM-RAU request	M117440574.S117456846	Sum	hustrafbh, Sum
Iu_mode_max_intraSG_RAU_req	INTENSITY	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022:Maximum number of Iu	M117440574.S117456844	Average	Average, hustrafbh, Maximum, Minimu

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			mode intra-SGSN RAU request			m, Sum
Iu_mode_Periodic_RAU_reject_Ge_fail	ACCUMULATION	INTEGER	Number of Periodic RAU failures due to Ge protocol error.	M117440574.S117456841	Sum	hustrafbh, Sum
Iu_mode_Periodic_RAU_reject_Gr_fail	ACCUMULATION	INTEGER	Number of Periodic RAU failures due to Gr protocol error.	M117440574.S117456840	Sum	hustrafbh, Sum
Iu_mode_Periodic_RAU_reject_illegal_MS	ACCUMULATION	INTEGER	Number of Periodic RAU failures due to illegal mobile station.	M117440574.S117456836	Sum	hustrafbh, Sum
Iu_mode_Periodic_RAU_reject_implicitly_detached	ACCUMULATION	INTEGER	Number of Periodic RAU failures due to implicitly detached.	M117440574.S117456838	Sum	hustrafbh, Sum
Iu_mode_Periodic_RAU_reject_LA_not_allowed	ACCUMULATION	INTEGER	Number of Periodic RAU failures due to location area not allowed.	M117440574.S117456837	Sum	hustrafbh, Sum
Iu_mode_Periodic_RAU_reject_no_suitable_cell_in_LA	ACCUMULATION	INTEGER	Number of Periodic RAU failures due to no suitable Cells in LA.	M117440574.S117456842	Sum	hustrafbh, Sum
Iu_mode_Periodic_RAU_reject_protocol_error	ACCUMULATION	INTEGER	Number of Periodic RAU failures due to protocol error.	M117440574.S117456839	Sum	hustrafbh, Sum
Iu_mode_Periodic_RAU_request_times	ACCUMULATION	INTEGER	Number of Periodic RAU requests within the SGSN area.	M117440574.S117456834	Sum	hustrafbh, Sum

Iu_mode_Periodic_RAU_success_times	ACCUMULATION	INTEGER	Number of Periodic RAU successes withinThis SGSN area.	M117440574.S117456835	Sum	hustrafbh, Sum
Max_intraSG_COM_RAU_req	INTENSITY	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022 :Maximum number of Iu mode intra-SGSN COM-RAU request	M117440574.S117456845	Average	Average, hustrafbh, Maximum, Minimum, Sum
RAU_accept_LAU_reject_MSC_unreach	ACCUMULATION	INTEGER	Number of times RAU is accepted but LAU fails due to MSC temporarily unreachable in the process of combined intra-SGSN updates.	M117440574.S117456829	Sum	hustrafbh, Sum
RAU_accept_LAU_reject_VLR_reject	ACCUMULATION	INTEGER	Number of times RAU is accepted but LAU fails due to VLR reject in the process of combined intra-SGSN updates.	M117440574.S117456830	Sum	hustrafbh, Sum
RAU_complete_rec	ACCUMULATION	INTEGER	Number of times intra-SGSN RAU is completed .	M117440574.S117456831	Sum	hustrafbh, Sum

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RAU_reject_Ge_fail	ACCUMULATION	INTEGER	Number of intra-SGSN RAU failures due to Ge protocol error.	M117440574.S117456820	Sum	hustrafbh, Sum
RAU_reject_Gr_fail	ACCUMULATION	INTEGER	Number of intra-SGSN RAU failures due to Gr protocol error.	M117440574.S117456819	Sum	hustrafbh, Sum
RAU_reject_illegal_MS	ACCUMULATION	INTEGER	Number of intra-SGSN RAU failures due to illegal mobile station.	M117440574.S117456815	Sum	hustrafbh, Sum
RAU_reject_implicitly_detached	ACCUMULATION	INTEGER	Number of intra-SGSN RAU failures due to implicitly detached.	M117440574.S117456817	Sum	hustrafbh, Sum
RAU_reject_LA_not_allowed	ACCUMULATION	INTEGER	Number of intra-SGSN RAU failures due to location area not allowed.	M117440574.S117456816	Sum	hustrafbh, Sum
RAU_reject_no_suitable_cell_in_LA	ACCUMULATION	INTEGER	Number of intra-SGSN RAU failures due to no suitable Cells in LA.	M117440574.S117456832	Sum	hustrafbh, Sum
RAU_reject_protocol_error	ACCUMULATION	INTEGER	Number of intra-SGSN RAU failures due to protocol error.	M117440574.S117456818	Sum	hustrafbh, Sum
RAU_request_times	ACCUMULATION	INTEGER	Number of intra-SGSN RAU requests	M117440574.S117456813	Sum	hustrafbh, Sum

			within the SGSN area.			
RAU_success_times	ACCUMULATION	INTEGER	Number of intra-SGSN RAU successes within this SGSN area.	M117440574.S117456814	Sum	hustrafbh, Sum
USPU_drop_RAUreq_noPDP_flwctrl	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022 :USPU drop Intra RAU request without PDP packets of 3G due to flow control	M117440574.S117456843	Sum	hustrafbh, Sum

7.31.45SGSN.Huawei.GPRS.Iu_Mode_L3_MM

Iu Mode L3 MM measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
Att_Acc_sent_to_foreign_subs	ACCUMULATION	INTEGER	Number of successful attachments within the SGSN by roaming subscribers of external networks .	M117440571.S117456516	Sum	hustrafbh, Sum
Att_Rej_sent_to_foreign_subs	ACCUMULATION	INTEGER	Number of attachment failures within the SGSN by roaming	M117440571.S117456517	Sum	hustrafbh, Sum

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			subscribers of external networks.			
Att_Req_rec_from_foreign_subs	ACCUMULATION	INTEGER	Number of requests within the SGSN for attachment initiated by roaming subscriber of external networks.	M117440571.S117456515	Sum	hustrafbh, Sum
L3_message_received	ACCUMULATION	INTEGER	Number of L3 signalling received by SGSN 3G MM.	M117440571.S117456513	Sum	hustrafbh, Sum
L3_message_sent	ACCUMULATION	INTEGER	Number of L3 signalling sent by SGSN 3G MM.	M117440571.S117456514	Sum	hustrafbh, Sum
RAU_Acc_sent_to_foreign_subs	ACCUMULATION	INTEGER	Number of successful RAUs by roaming subscribers of external networks within the SGSN.	M117440571.S117456519	Sum	hustrafbh, Sum
RAU_Compl_rec_from_foreign_subs	ACCUMULATION	INTEGER	Number of times SGSN receives the routing area updating complete message from roaming subscribers of external networks.	M117440571.S117456521	Sum	hustrafbh, Sum
RAU_Rej_sent_to_foreign_su	ACCUMULATION	INTEGER	Number of RAU failures	M117440571.S117456520	Sum	hustrafbh, Sum

bs			by the roaming subscriber of external networks within the SGSN.			
RAU_Req_rec_from_foreign_subs	ACCUMULATION	INTEGER	Number of requests within the SGSN for RAU by roaming subscribers of external networks.	M117440571.S117456518	Sum	hustrafbh, Sum
Transfered_Gn_msg_for_other_SGSN	ACCUMULATION	INTEGER	Signaling messages that the SGSN receives for other SGSNs on the Gn interface	M117440571.S117456522	Sum	hustrafbh, Sum

7.31.46SGSN.Huawei.GPRS.Iu_Mode_Paging

Iu Mode Paging measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
Circuit_paging_request	ACCUMULATION	INTEGER	Number of circuit pagings delivered by SGSN.	M117440577.S117457113	Sum	hustrafbh, Sum
Pkt_paging_none_response	ACCUMULATION	INTEGER	Number of failed packet pagings.	M117440577.S117457115	Sum	hustrafbh, Sum
Pkt_paging_request	ACCUMULATION	INTEGER	Number of delivered packet	M117440577.S117457114	Sum	hustrafbh, Sum

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			paging requests not including re-transmitted messages.			

7.31.47SGSN.Huawei.GPRS.Iu_Mode_PDP_Access_Reject

Iu Mode PDP Access Reject measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
High_level_user_PDP_access_reject	ACCUMULATION	INTEGER	Number of times that the PDP context activation is rejected for high class users in Iu mode.	M117440664.S117465813	Sum	hustrafbh, Sum
Low_level_user_PDP_access_reject	ACCUMULATION	INTEGER	Number of times that the PDP context activation is rejected for low class users in Iu mode.	M117440664.S117465815	Sum	hustrafbh, Sum
Normal_user_PDP_access_reject	ACCUMULATION	INTEGER	Number of times that the PDP context activation is rejected for normal class users in Iu mode.	M117440664.S117465814	Sum	hustrafbh, Sum

7.31.48SGSN.Huawei.GPRS.Iu_Mode_PDP_Context_Activation

Iu Mode PDP Context Activation measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
_	PERCENTA	FLOA	Percentage of	100 *	Average	Average,

%_MS_init_IPV4_PDP_ctx_act_suc	GE	T	successful MS-initiated IPv4 PDP context activations	{MS_init_IPV4_PDP_ctx_act_suc}/{MS_init_IPV4_PDP_ctx_act}		hustrafbh
_%_MS_init_IPV6_PDP_ctx_act_suc	PERCENTAGE	FLOAT	Percentage of successful MS-initiated IPv6 PDP context activations	100 * {MS_init_IPV6_PDP_ctx_act_suc}/{MS_init_IPV6_PDP_ctx_act}	Average	Average, hustrafbh
_%_MS_init_PDP_context_act_suc	PERCENTAGE	FLOAT	Percentage of successes of MS-initiated first PDP context activation.	100 * {MS_init_PDP_context_act_suc}/{MS_init_PDP_context_act}	Average	Average, hustrafbh
_%_Network_init_IPV4_PDP_ctx_act_suc	PERCENTAGE	FLOAT	Percentage of successful GGSN-initiated IPv4 PDP context network activations	100 * {Network_init_IPV4_PDP_ctx_act_suc}/{Network_init_IPV4_PDP_ctx_act}	Average	Average, hustrafbh
_%_Network_init_IPV6_PDP_ctx_act_suc	PERCENTAGE	FLOAT	Percentage of successful GGSN-initiated IPv6 PDP context network activations	100 * {Network_init_IPV6_PDP_ctx_act_suc}/{Network_init_IPV6_PDP_ctx_act}	Average	Average, hustrafbh
_%_Network_init_PDP_context_act_suc	PERCENTAGE	FLOAT	Percentage of successes of network-initiated PDP context activation.	100 * {Network_init_PDP_context_act_suc}/{Network_init_PDP_context_act}	Average	Average, hustrafbh
_%_Secondary_IPV4_PDP_ctx_act_suc	PERCENTAGE	FLOAT	Percentage of successful secondary IPv4 PDP context activations	100 * {Secondary_IPV4_PDP_ctx_act_suc}/{Secondary_IPV4	Average	Average, hustrafbh

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				_PDP_ctx_act}		
_%_Secondary_IPV6_PDP_ctx_act_suc	PERCENTAGE	FLOAT	Percentage of successful secondary IPv6 PDP context activations	100 * {Secondary_IPV6_PDP_ctx_act_suc}/ {Secondary_IPV6_PDP_ctx_act}	Average	Average, hustrafbh
_%_SGSN_update_PDP_context_success	PERCENTAGE	FLOAT	Obsolete from R007. Percentage of the successful SGSN initiated PDP context modifications.	100 * {SGSN_update_PDP_context_success}/ {SGSN_update_PDP_context_request}	Average	Average, hustrafbh
Active_One_Tunnel_Pdp_fail	ACCUMULATION	INTEGER	The number of One Tunnel Pdp active failure	M117440600.S117459482	Sum	hustrafbh, Sum
Active_One_Tunnel_Pdp_succ	ACCUMULATION	INTEGER	The number of One Tunnel Pdp active success	M117440600.S117459480	Sum	hustrafbh, Sum
Active_Two_Tunnel_Pdp_fail	ACCUMULATION	INTEGER	The number of Two Tunnel Pdp active failure	M117440600.S117459483	Sum	hustrafbh, Sum
Active_Two_Tunnel_Pdp_succ	ACCUMULATION	INTEGER	The number of Two Tunnel Pdp active success	M117440600.S117459481	Sum	hustrafbh, Sum
Foreign_subs_act_PDP_context_accept	ACCUMULATION	INTEGER	Number of foreign MS-initiated PDP context activation successes (including first and secondary activation).	M117440600.S117459439	Sum	hustrafbh, Sum
Foreign_subs_act_PDP_context_	ACCUMULATION	INTEGER	Number of foreign MS-	M117440600.S117459440	Sum	hustrafbh, Sum

reject			initiated PDP context activation failures (including first and secondary activation).			
Foreign_subs_init_PDP_context_act	ACCUMULATION	INTEGER	Number of foreign MS-initiated PDP context activation attempts (including first and secondary activation).	M117440600.S117459438	Sum	hustrafbh, Sum
Max_MS_init_PDP_context_act	INTENSITY	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Maximum number of Iu mode MS init PDP context act	M117440600.S117459496	Average	Average, hustrafbh, Maximum, Minimum, Sum
MS_init_IPV4_PDP_ctx_act_reject	ACCUMULATION	INTEGER	Number of rejected MS-initiated IPv4 PDP context activations.	M117440600.S117459477	Sum	hustrafbh, Sum
MS_init_IPV4_PDP_ctx_act_suc	ACCUMULATION	INTEGER	Number of successful MS-initiated IPv4 PDP context activations	M117440600.S117459444	Sum	hustrafbh, Sum
MS_init_IPV4_PDP_ctx_act	ACCUMULATION	INTEGER	Number of MS-initiated IPv4 PDP context activation	M117440600.S117459443	Sum	hustrafbh, Sum

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			requests			
MS_init_IPV6_PDP_ctx_act_reject	ACCUMULATION	INTEGER	Number of rejected MS-initiated IPv6 PDP context activations.	M117440600.S117459478	Sum	hustrafbh, Sum
MS_init_IPV6_PDP_ctx_act_suc	ACCUMULATION	INTEGER	Number of successful MS-initiated IPv6 PDP context activations	M117440600.S117459450	Sum	hustrafbh, Sum
MS_init_IPV6_PDP_ctx_act	ACCUMULATION	INTEGER	Number of MS-initiated IPv6 PDP context activation requests	M117440600.S117459449	Sum	hustrafbh, Sum
MS_init_PDP_context_act_reject	ACCUMULATION	INTEGER	Number of first PDP context activation failures	M117440600.S117459419	Sum	hustrafbh, Sum
MS_init_PDP_context_act_suc	ACCUMULATION	INTEGER	Number of successes of MS-initiated first PDP context activation.	M117440600.S117459414	Sum	hustrafbh, Sum
MS_init_PDP_context_act	ACCUMULATION	INTEGER	Number of attempts of MS-initiated first PDP context activation using static or dynamic PDP address.	M117440600.S117459413	Sum	hustrafbh, Sum
MS_init_PDP_context_Max_act_dur	INTENSITY	INTEGER	Maximum MS initiated primary PDP context activation duration in Iu	M117440600.S117459470	Average	Average, hustrafbh, Maximum, Minimu

			mode.			m, Sum
MS_init_PDP_context_Mean_act_dur	INTENSITY	FLOAT	Average primary MS activated PDP context establishment duration in Iu mode.	M117440600.S117459471	Average	Average, hustrafbh, Maximum, Minimum, Sum
MS_init_PDP_context_sec_act_suc	ACCUMULATION	INTEGER	Number of successes of the MS initiated secondary PDP context activation.	M117440600.S117459426	Sum	hustrafbh, Sum
MS_init_PDP_ctxt_act_suc_with_dyn_addr	ACCUMULATION	INTEGER	Number of successes of MS-initiated PDP context activation using dynamic PDP address.	M117440600.S117459418	Sum	hustrafbh, Sum
MS_init_PDP_ctxt_act_with_dyn_addr	ACCUMULATION	INTEGER	Number of MS-initiated PDP context activation attempts using dynamic PDP address.	M117440600.S117459417	Sum	hustrafbh, Sum
MS_init_PDP_ctxt_reject_with_dyn_addr	ACCUMULATION	INTEGER	Number of reject of MS-initiated PDP context activation using dynamic PDP address.	M117440600.S117459479	Sum	hustrafbh, Sum
MS_PDP_Context_act_complete	ACCUMULATION	INTEGER	Number of successful primary PDP	M117440600.S117459472	Sum	hustrafbh, Sum

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			context activations initiated by MSs.			
MS_PDP_Context_total_act	ACCUMULATION	INTEGER	Total duration of the MS initiated 3G PDP context activations in the measurement period.	M117440600.S117459473	Sum	hustrafbh, Sum
Net_PDP_context_act_fail_insuff_res	ACCUMULATION	INTEGER	Number of activation failures due to insufficient net resources.	M117440600.S117459464	Sum	hustrafbh, Sum
NET_PDP_context_act_fail	ACCUMULATION	INTEGER	Number of GGSN initiated PDP context activation failures.	M117440600.S117459476	Sum	hustrafbh, Sum
Net_PDP_context_fail_DNS_reso_fail	ACCUMULATION	INTEGER	Number of activation failures due to DNS resolution failure.	M117440600.S117459465	Sum	hustrafbh, Sum
Net_PDP_context_fail_Ge_fail	ACCUMULATION	INTEGER	Number of GGSN initiated PDP context activation failures caused by Ge interface failure.	M117440600.S117459469	Sum	hustrafbh, Sum
Net_PDP_context_fail_GGSN_reject	ACCUMULATION	INTEGER	Number of activation failures due to GGSN rejection.	M117440600.S117459463	Sum	hustrafbh, Sum
Net_PDP_context_fail_missing_	ACCUMULATION	INTEGER	Number of activation	M117440600.S117459457	Sum	hustrafbh, Sum

APN			failures due to the unknown APN.			
Net_PDP_context_fail_No_Reason	ACCUMULATION	INTEGER	Number of activation failures due to unspecified reasons.	M117440600.S117459467	Sum	hustrafbh, Sum
Net_PDP_context_fail_Op_Det_Bar	ACCUMULATION	INTEGER	Number of activation failures due to the ODB.	M117440600.S117459466	Sum	hustrafbh, Sum
Net_PDP_context_fail_QoS_nego_fail	ACCUMULATION	INTEGER	Number of activation failures due to the QoS negotiation failure.	M117440600.S117459462	Sum	hustrafbh, Sum
Net_PDP_context_fail_srvc_not_supp	ACCUMULATION	INTEGER	Number of activation failures due to that the service is not supported.	M117440600.S117459460	Sum	hustrafbh, Sum
Net_PDP_context_fail_srvc_unsubs	ACCUMULATION	INTEGER	Number of activation failures due to that the requested service is not subscribed.	M117440600.S117459461	Sum	hustrafbh, Sum
Net_PDP_context_fail_unknown_PDP	ACCUMULATION	INTEGER	Number of PDP context activation failures due to unknown PDP address or PDP type.	M117440600.S117459458	Sum	hustrafbh, Sum

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Net_PDP_context_fail_user_auth_fail	ACCUMULATION	INTEGER	Number of activation failures due to user authentication failure.	M117440600.S117459459	Sum	hustrafbh, Sum
Net_PDP_ctxt_fail_RAB_assign_fail	ACCUMULATION	INTEGER	Number of activation failures due to the RAB assignment failure.	M117440600.S117459468	Sum	hustrafbh, Sum
NET_PDP_fail_APN_Restriction	ACCUMULATION	INTEGER	Number of Net initiated activation failures (due to APN Restriction).	M117440600.S117459485	Sum	hustrafbh, Sum
Network_init_IPV4_PDP_ctx_act_suc	ACCUMULATION	INTEGER	Number of successful GGSN-initiated IPv4 PDP context network activations	M117440600.S117459446	Sum	hustrafbh, Sum
Network_init_IPV4_PDP_ctx_act	ACCUMULATION	INTEGER	Number of GGSN-initiated IPv4 PDP context network activation attempts	M117440600.S117459445	Sum	hustrafbh, Sum
Network_init_IPV6_PDP_ctx_act_suc	ACCUMULATION	INTEGER	Number of successful GGSN-initiated IPv6 PDP context network activations	M117440600.S117459452	Sum	hustrafbh, Sum
Network_init_IPV6_PDP_ctx_act	ACCUMULATION	INTEGER	Number of GGSN-initiated IPv6 PDP context network activation attempts	M117440600.S117459451	Sum	hustrafbh, Sum

Network_init_PDP_context_act_suc	ACCUMULATION	INTEGER	Number of successes of network-initiated PDP context activation.	M117440600.S117459416	Sum	hustrafbh, Sum
Network_init_PDP_context_act	ACCUMULATION	INTEGER	Number of network-initiated PDP context activation requests.	M117440600.S117459415	Sum	hustrafbh, Sum
PDP_act_fail_APN_Restriction	ACCUMULATION	INTEGER	Number of MS initiated activation failures (due to APN Restriction).	M117440600.S117459484	Sum	hustrafbh, Sum
PDP_context_act_fail_DNS_reso_fail	ACCUMULATION	INTEGER	Number of activation failures due to the DNS resolution failure.	M117440600.S117459423	Sum	hustrafbh, Sum
PDP_context_fail_Ge_fail	ACCUMULATION	INTEGER	Number of activation failures due to SCP rejection.	M117440600.S117459433	Sum	hustrafbh, Sum
PDP_context_fail_GGSN_reject	ACCUMULATION	INTEGER	Number of activation failures due to GGSN rejection.	M117440600.S117459421	Sum	hustrafbh, Sum
PDP_context_fail_insuff_res	ACCUMULATION	INTEGER	Number of activation failures due to insufficient net resources.	M117440600.S117459422	Sum	hustrafbh, Sum

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PDP_context_fail_missing_APN	ACCUMULATION	INTEGER	Number of PDP context activation failures due to APN unknown.	M117440600.S117459428	Sum	hustrafbh, Sum
PDP_context_fail_QoS_nego_fail	ACCUMULATION	INTEGER	Number of activation failures due to the QoS negotiation failure.	M117440600.S117459420	Sum	hustrafbh, Sum
PDP_context_fail_RAB_assign_fail	ACCUMULATION	INTEGER	Number of activation failures due to RAB assignment failure.	M117440600.S117459424	Sum	hustrafbh, Sum
PDP_context_fail_srvc_not_supported	ACCUMULATION	INTEGER	Number of PDP context activation failures due to service unsupported.	M117440600.S117459431	Sum	hustrafbh, Sum
PDP_context_fail_srvc_unsubscribed	ACCUMULATION	INTEGER	Number of T PDP context activation failures due to requested service not subscribed.	M117440600.S117459432	Sum	hustrafbh, Sum
PDP_context_fail_unknown_PDP	ACCUMULATION	INTEGER	Number of PDP context activation failures due to unknown PDP address or PDP type.	M117440600.S117459429	Sum	hustrafbh, Sum
PDP_context_fail_unspecific_reason	ACCUMULATION	INTEGER	Number of activation failures due to unspecified reasons.	M117440600.S117459455	Sum	hustrafbh, Sum

PDP_context_fail_user_auth_fail	ACCUMULATION	INTEGER	Number of PDP context activation failures due to user authentication failure.	M117440600.S117459430	Sum	hustrafbh, Sum
PDP_context_sec_act_reject	ACCUMULATION	INTEGER	Number of secondary PDP context activation failures.	M117440600.S117459427	Sum	hustrafbh, Sum
PDP_context_sec_act	ACCUMULATION	INTEGER	Number of attempts of MS-initiated secondary PDP context activation.	M117440600.S117459425	Sum	hustrafbh, Sum
PDP_context_sec_fail_Ge_fail	ACCUMULATION	INTEGER	Number of secondary PDP context activation failures due to Ge interface failed.	M117440600.S117459437	Sum	hustrafbh, Sum
PDP_context_sec_fail_GGSN_reject	ACCUMULATION	INTEGER	Number of secondary PDP context activation failures due to GGSN rejection.	M117440600.S117459435	Sum	hustrafbh, Sum
PDP_context_sec_fail_net_res_insuff	ACCUMULATION	INTEGER	Number of secondary PDP context activation failures due to insufficient	M117440600.S117459434	Sum	hustrafbh, Sum

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			network resources.			
PDP_context_sec_fail_No_Reason	ACCUMULATION	INTEGER	Number of activation failures due to unspecified reasons.	M117440600.S117459456	Sum	hustrafbh, Sum
PDP_context_sec_fail_unknown_PDP	ACCUMULATION	INTEGER	Number of secondary PDP context activation failures due to unknown PDP address or PDP type.	M117440600.S117459436	Sum	hustrafbh, Sum
PDP_ctx_act_fail_Op_Det_Bar	ACCUMULATION	INTEGER	Number of activation failures (due to ODB).	M117440600.S117459441	Sum	hustrafbh, Sum
PDP_ctx_sec_act_fail_Op_Det_Bar	ACCUMULATION	INTEGER	Number of secondary PDP context activation failures (due to ODB).	M117440600.S117459442	Sum	hustrafbh, Sum
Secondary_IPV4_PDP_ctx_act_suc	ACCUMULATION	INTEGER	Number of successful secondary IPv4 PDP context activations	M117440600.S117459448	Sum	hustrafbh, Sum
Secondary_IPV4_PDP_ctx_act	ACCUMULATION	INTEGER	Number of secondary IPv4 PDP context activation requests	M117440600.S117459447	Sum	hustrafbh, Sum
Secondary_IPV6_PDP_ctx_act_suc	ACCUMULATION	INTEGER	Number of successful secondary IPv6 PDP context activations	M117440600.S117459454	Sum	hustrafbh, Sum
Secondary_IPV	ACCUMULA	INTEG	Number of	M117440600.S11	Sum	hustrafbh

6_PDP_ctx_act	TION	ER	secondary IPv6 PDP context activation requests	7459453		, Sum
SGSN_update_PDP_context_request	ACCUMULATION	INTEGER	Obsolete from R007. Number of the SGSN initiated PDP context modification requests.	M117440600.S117459474	Sum	hustrafbh, Sum
SGSN_update_PDP_context_success	ACCUMULATION	INTEGER	Obsolete from R007. Number of the successful SGSN initiated PDP context modifications.	M117440600.S117459475	Sum	hustrafbh, Sum
USPU_drop_PDP_act_req_flw_ctrl	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: USPU drop PDP activation request packets of 3G due to flow control	M117440600.S117459495	Sum	hustrafbh, Sum

7.31.49SGSN.Huawei.GPRS.Iu_Mode_PDP_Context_Deactivation

Iu Mode PDP Context Deactivation measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
_%_GGSN_init_PDP_context_deact_success	PERCENTAGE	FLOAT	Percentage of successes of GGSN-initiated PDP context	100 * {GGSN_init_PDP_context_deact_success}/	Average	Average, hustrafbh

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			deactivation.	{GGSN_init_PDP_context_deact}		
_%_MS_init_PDP_context_deact_success	PERCENTAGE	FLOAT	Percentage of successes of MS-initiated PDP context deactivation.	100 * {MS_init_PDP_context_deact_success}/ {MS_init_PDP_context_deact}	Average	Average, hustrafbh
_%_SGSN_init_PDP_context_deact_success	PERCENTAGE	FLOAT	Percentage of successes of SGSN-initiated PDP context deactivation.	100 * {SGSN_init_PDP_context_deact_success}/ {SGSN_init_PDP_context_deact}	Average	Average, hustrafbh
GGSN_init_PDP_context_deact_success	ACCUMULATION	INTEGER	Number of successes of GGSN-initiated PDP context deactivation.	M117440601.S117459516	Sum	hustrafbh, Sum
GGSN_init_PDP_context_deact	ACCUMULATION	INTEGER	Number of GGSN-initiated requests for PDP context deactivation.	M117440601.S117459515	Sum	hustrafbh, Sum
Max_MS_init_PDP_context_deact	INTENSITY	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Maximum number of Iu mode MS init PDP context deact	M117440601.S117459519	Average	Average, hustrafbh, Maximum, Minimum, Sum
MS_init_PDP_context_deact_success	ACCUMULATION	INTEGER	Number of successes of MS-initiated PDP context deactivation.	M117440601.S117459514	Sum	hustrafbh, Sum
MS_init_PDP_context_deact	ACCUMULATION	INTEGER	Number of MS-initiated requests for	M117440601.S117459513	Sum	hustrafbh, Sum

			PDP context deactivation.			
SGSN_init_PDP_context_deact_success	ACCUMULATION	INTEGER	Number of successes of SGSN-initiated PDP context deactivation.	M117440601.S117459518	Sum	hustrafbh, Sum
SGSN_init_PDP_context_deact	ACCUMULATION	INTEGER	Number of SGSN-initiated requests for PDP context deactivation.	M117440601.S117459517	Sum	hustrafbh, Sum

7.31.50SGSN.Huawei.GPRS.Iu_Mode_PDP_Context_Modification

Iu Mode PDP Context Modification measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
_%_GGSN_init_PDP_context_modify_suc	PERCENTAGE	FLOAT	Percentage of successes of GGSN-initiated PDP context modification.	100 * {GGSN_init_PDP_context_modify_suc}/ {GGSN_init_PDP_context_modify}	Average	Average, hustrafbh
_%_IU_RAB_Rel_init_PDP_ctxt_modify_suc	PERCENTAGE	FLOAT	Percentage of PDP context modification successes due to Iu/RAB release.	100 * {IU_RAB_Rel_init_PDP_ctxt_modify_suc}/ {IU_RAB_Rel_init_PDP_ctxt_modify}	Average	Average, hustrafbh
_%_MS_init_PDP_context_modify_suc	PERCENTAGE	FLOAT	Percentage of MS-initiated PDP context modification successes.	100 * {MS_init_PDP_context_modify_suc}/ {MS_init_PDP_co	Average	Average, hustrafbh

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				ntext_modify}		
_%_RNC_init_PDP_ctx_modify_suc	PERCENTAGE	FLOAT	Percentage of successful RNC-originated PDP modifications	100 * {RNC_init_PDP_ctx_modify_suc}/ {RNC_init_PDP_ctx_modify}	Average	Average, hustrafbh
_%_SGSN_init_PDP_context_modify_suc	PERCENTAGE	FLOAT	Percentage of successes of SGSN-initiated PDP context modification.	100 * {SGSN_init_PDP_context_modify_suc}/ {SGSN_init_PDP_context_modify}	Average	Average, hustrafbh
GGSN_init_PDP_context_modify_suc	ACCUMULATION	INTEGER	Number of successes of GGSN-initiated PDP context modification.	M117440602.S117459618	Sum	hustrafbh, Sum
GGSN_init_PDP_context_modify	ACCUMULATION	INTEGER	Number of GGSN-initiated requests for PDP context modification.	M117440602.S117459617	Sum	hustrafbh, Sum
Iu_mode_SGSN_modify_PDP_context_request	ACCUMULATION	INTEGER	Number of Modify PDP Context Request message sent by SGSN to MS.	M117440602.S117459623	Sum	hustrafbh, Sum
Iu_mode_SGSN_modify_PDP_context_success	ACCUMULATION	INTEGER	Number of Modify PDP context accept message received by SGSN from MS.	M117440602.S117459624	Sum	hustrafbh, Sum
Iu_mode_SGSN_update_PDP_context_request	ACCUMULATION	INTEGER	Number of Update PDP Context Request message sent by SGSN to	M117440602.S117459625	Sum	hustrafbh, Sum

			GGSN.			
Iu_mode_SGSN_update_PDP_context_success	ACCUMULATION	INTEGER	Number of Update PDP Context Response message with cause of "Request Accepted" received by SGSN from MS.	M117440602.S117459626	Sum	hustrafbh, Sum
IU_RAB_Rel_init_PDP_ctxt_modify_suc	ACCUMULATION	INTEGER	Number of PDP context modification successes due to Iu/RAB release.	M117440602.S117459620	Sum	hustrafbh, Sum
IU_RAB_Rel_init_PDP_ctxt_modify	ACCUMULATION	INTEGER	Number of PDP context modifications due to IU/RAB release.	M117440602.S117459619	Sum	hustrafbh, Sum
MS_init_PDP_context_modify_suc	ACCUMULATION	INTEGER	Number of MS-initiated PDP context modification successes.	M117440602.S117459614	Sum	hustrafbh, Sum
MS_init_PDP_context_modify	ACCUMULATION	INTEGER	Number of MS-initiated requests for PDP context modification.	M117440602.S117459613	Sum	hustrafbh, Sum
RNC_init_PDP_ctx_modify_suc	ACCUMULATION	INTEGER	Number of successful RNC-originated PDP modifications	M117440602.S117459622	Sum	hustrafbh, Sum

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RNC_init_PDP_ctx_modify	ACCUMULATION	INTEGER	Number of RNC-originated PDP modification attempts	M117440602.S117459621	Sum	hustrafbh, Sum
SGSN_init_PDP_context_modify_suc	ACCUMULATION	INTEGER	Number of successes of SGSN-initiated PDP context modification.	M117440602.S117459616	Sum	hustrafbh, Sum
SGSN_init_PDP_context_modify	ACCUMULATION	INTEGER	Number of SGSN-initiated requests for PDP context modification.	M117440602.S117459615	Sum	hustrafbh, Sum

7.31.51SGSN.Huawei.GPRS.Iu_Mode_PDP_Context_Reserve

Iu Mode PDP Context Reserve measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
_%_SGSN_init_PDP_ctxt_preservation_suc	PERCENTAGE	FLOAT	Percentage of PDP context preservation successes.	100 * {SGSN_init_PDP_ctxt_preservation_suc}/ {SGSN_init_PDP_ctxt_preservation}	Average	Average, hustrafbh
Avg_preserved_PDP_ctxt	INTENSITY	INTEGER	The arithmetical mean of the number of PDP contexts in preserved status.	M117440604.S117459813	Average	Average, hustrafbh, Maximum, Minimum, Sum
SGSN_init_PDP_ctxt_preservation_suc	ACCUMULATION	INTEGER	Number of PDP context preservation successes.	M117440604.S117459815	Sum	hustrafbh, Sum
SGSN_init_PDP_ctxt_preserva	ACCUMULATION	INTEGER	Number of executions of	M117440604.S117459814	Sum	hustrafbh, Sum

tion			the preservation process.			

7.31.52SGSN.Huawei.GPRS.Iu_Mode_RAB

Iu Mode RAB measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
_%_MS_init_RAB_re_establish_success	PERCENTAGE	FLOAT	Percentage of MS-initiated RAB reestablishment successes.	100 * {MS_init_RAB_re_establish_success}/ {MS_init_RAB_re_establish}	Average	Average, hustrafbh
_%_SGSN_init_RAB_re_establish_success	PERCENTAGE	FLOAT	Percentage of SGSN-initiated RAB reestablishment successes.	100 * {SGSN_init_RAB_re_establish_success}/ {SGSN_init_RAB_re_establish}	Average	Average, hustrafbh
MS_init_RAB_re_establish_success	ACCUMULATION	INTEGER	Number of MS-initiated RAB reestablishment successes.	M117440605.S117459946	Sum	hustrafbh, Sum
MS_init_RAB_re_establish	ACCUMULATION	INTEGER	Number of MS-initiated RAB reestablishment requests.	M117440605.S117459945	Sum	hustrafbh, Sum
RANAP_RAB_assign_att_background	ACCUMULATION	INTEGER	Number of attempted assignments of Background QoS Class RANAP RAB.	M117440605.S117459914	Sum	hustrafbh, Sum

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RANAP_RAB_assign_att_conversational	ACCUMULATION	INTEGER	Number of attempted assignments of Conversational QoS Class RANAP RAB.	M117440605.S117459915	Sum	hustrafbh, Sum
RANAP_RAB_assign_att_interactive	ACCUMULATION	INTEGER	Number of attempted assignments of Interactive QoS Class RANAP RAB.	M117440605.S117459913	Sum	hustrafbh, Sum
RANAP_RAB_assign_att_streaming	ACCUMULATION	INTEGER	Number of attempted assignments of Streaming QoS Class RANAP RAB.	M117440605.S117459916	Sum	hustrafbh, Sum
RANAP_RAB_assign_rec_fail_background	ACCUMULATION	INTEGER	Number of unsuccessful assignments of Background QoS Class RANAP RAB.	M117440605.S117459922	Sum	hustrafbh, Sum
RANAP_RAB_assign_rec_fail_conversational	ACCUMULATION	INTEGER	Number of unsuccessful assignments of Conversational QoS Class RANAP RAB.	M117440605.S117459923	Sum	hustrafbh, Sum
RANAP_RAB_assign_rec_fail_interactive	ACCUMULATION	INTEGER	Number of unsuccessful assignments of Interactive QoS Class RANAP RAB.	M117440605.S117459921	Sum	hustrafbh, Sum
RANAP_RAB_assign_rec_fail_streaming	ACCUMULATION	INTEGER	Number of unsuccessful assignments of Streaming QoS Class RANAP RAB.	M117440605.S117459924	Sum	hustrafbh, Sum

RANAP_RAB_assign_rec_suc_background	ACCUMULATION	INTEGER	Number of successful assignments of Background QoS Class RANAP RAB.	M117440605.S117459918	Sum	hustrafbh, Sum
RANAP_RAB_assign_rec_suc_conversational	ACCUMULATION	INTEGER	Number of successful assignments of Conversational QoS Class RANAP RAB.	M117440605.S117459919	Sum	hustrafbh, Sum
RANAP_RAB_assign_rec_suc_interactive	ACCUMULATION	INTEGER	Number of successful assignments of Interactive QoS Class RANAP RAB.	M117440605.S117459917	Sum	hustrafbh, Sum
RANAP_RAB_assign_rec_suc_streaming	ACCUMULATION	INTEGER	Number of successful assignments of Streaming QoS Class RANAP RAB.	M117440605.S117459920	Sum	hustrafbh, Sum
RANAP_RAB_mod_att_background	ACCUMULATION	INTEGER	Number of attempted modifications to Background QoS Class RANAP RAB.	M117440605.S117459926	Sum	hustrafbh, Sum
RANAP_RAB_mod_att_conversational	ACCUMULATION	INTEGER	Number of attempted modifications to Conversational QoS Class RANAP RAB.	M117440605.S117459927	Sum	hustrafbh, Sum
RANAP_RAB_mod_att_interac	ACCUMULATION	INTEGER	Number of attempted	M117440605.S117459925	Sum	hustrafbh, Sum

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tive			modifications to Interactive QoS Class RANAP RAB.			
RANAP_RAB_mod_att_streaming	ACCUMULATION	INTEGER	Number of attempted modifications to Streaming QoS Class RANAP RAB.	M117440605.S117459928	Sum	hustrafbh, Sum
RANAP_RAB_mod_fail_background	ACCUMULATION	INTEGER	Number of unsuccessful modifications to Background QoS Class RANAP RAB.	M117440605.S117459934	Sum	hustrafbh, Sum
RANAP_RAB_mod_fail_conversational	ACCUMULATION	INTEGER	Number of unsuccessful modifications to Conversational QoS Class RANAP RAB.	M117440605.S117459935	Sum	hustrafbh, Sum
RANAP_RAB_mod_fail_interactive	ACCUMULATION	INTEGER	Number of unsuccessful modifications to Interactive QoS Class RANAP RAB.	M117440605.S117459933	Sum	hustrafbh, Sum
RANAP_RAB_mod_fail_streaming	ACCUMULATION	INTEGER	Number of unsuccessful modifications to Streaming QoS Class RANAP RAB.	M117440605.S117459936	Sum	hustrafbh, Sum
RANAP_RAB_mod_success_background	ACCUMULATION	INTEGER	Number of successful modifications to Background QoS Class RANAP RAB.	M117440605.S117459930	Sum	hustrafbh, Sum
RANAP_RAB_	ACCUMULA	INTEG	Number of	M117440605.S11	Sum	hustrafbh

mod_success_conversational	TION	ER	successful modifications to Conversational QoS Class RANAP RAB.	7459931		, Sum
RANAP_RAB_mod_success_interactive	ACCUMULATION	INTEGER	Number of successful modifications to Interactive QoS Class RANAP RAB.	M117440605.S117459929	Sum	hustrafbh, Sum
RANAP_RAB_mod_success_streaming	ACCUMULATION	INTEGER	Number of successful modifications to Streaming QoS Class RANAP RAB.	M117440605.S117459932	Sum	hustrafbh, Sum
RANAP_RAB_release_attempt_background	ACCUMULATION	INTEGER	Number of attempted releases of Background QoS Class RANAP RAB assignment.	M117440605.S117459939	Sum	hustrafbh, Sum
RANAP_RAB_release_attempt_conversational	ACCUMULATION	INTEGER	Number of attempted releases of Conversational QoS Class RANAP RAB assignment.	M117440605.S117459938	Sum	hustrafbh, Sum
RANAP_RAB_release_attempt_interactive	ACCUMULATION	INTEGER	Number of attempted releases of Interactive QoS Class RANAP RAB.	M117440605.S117459937	Sum	hustrafbh, Sum
RANAP_RAB_	ACCUMULA	INTEG	Number of	M117440605.S11	Sum	hustrafbh

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release_attempt_streaming	TION	ER	attempted releases of Streaming QoS Class RANAP RAB assignment.	7459940		, Sum
RANAP_RAB_release_success_background	ACCUMULATION	INTEGER	Number of successful releases of Background QoS Class RANAP RAB.	M117440605.S117459943	Sum	hustrafbh, Sum
RANAP_RAB_release_success_conversational	ACCUMULATION	INTEGER	Number of successful releases of Conversational QoS Class RANAP RAB.	M117440605.S117459942	Sum	hustrafbh, Sum
RANAP_RAB_release_success_interactive	ACCUMULATION	INTEGER	Number of successful releases of Interactive QoS Class RANAP RAB.	M117440605.S117459941	Sum	hustrafbh, Sum
RANAP_RAB_release_success_streaming	ACCUMULATION	INTEGER	Number of successful releases of Streaming QoS Class RANAP RAB.	M117440605.S117459944	Sum	hustrafbh, Sum
SGSN_init_RAB_re_establish_success	ACCUMULATION	INTEGER	Number of SGSN-initiated RAB reestablishment successes.	M117440605.S117459948	Sum	hustrafbh, Sum
SGSN_init_RAB_re_establish	ACCUMULATION	INTEGER	Number of SGSN-initiated RAB reestablishment requests.	M117440605.S117459947	Sum	hustrafbh, Sum

7.31.53SGSN.Huawei.GPRS.Iu_Mode_Radio_Resource

Iu Mode Radio Resource measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
Atted_avg_SIM_user_number	INTENSITY	FLOAT	Obsolete from CN-SGSN/V900R010.C01SPC022: Average number of Iu mode attached SIM user	M117440578.S117457232	Average	Average, hustrafbh, Maximum, Minimum, Sum
Atted_avg_USIM_user_number	INTENSITY	FLOAT	Obsolete from CN-SGSN/V900R010.C01SPC022: Average number of Iu mode attached USIM user	M117440578.S117457233	Average	Average, hustrafbh, Maximum, Minimum, Sum
Avg_attach_duration	INTENSITY	INTEGER	Mean attaching duration of 3G users within the measurement period.	M117440578.S117457222	Average	Average, hustrafbh, Maximum, Minimum, Sum
Avg_attached_users	INTENSITY	INTEGER	The recorded maximum number of attached users within the SGSN area.	M117440578.S117457218	Average	Average, hustrafbh, Maximum, Minimum, Sum
Avg_Atted_user_of_connectPLMN	INTENSITY	INTEGER	The arithmetical mean of the number of 3G	M117440578.S117457227	Average	Average, hustrafbh,

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			attached subscrabers of connect PLMN within this SGSN.			Maximum, Minimum, Sum
Avg_Atted_users_of_home_PLMN	INTENSITY	INTEGER	The arithmetical mean of the number of 3G attached subscrabers of home PLMN within this SGSN.	M117440578.S117457224	Average	Average, hustrafbh, Maximum, Minimum, Sum
Avg_users_at_PMM_CONNECTED_status	INTENSITY	INTEGER	The mean of the number of users in the "PMM-CONNECTED" status within the SGSN area.	M117440578.S117457215	Average	Average, hustrafbh, Maximum, Minimum, Sum
Avg_users_at_PMM_IDLE_status	INTENSITY	INTEGER	The mean of the number of users in the "PMM-IDLE" status within the SGSN area.	M117440578.S117457213	Average	Average, hustrafbh, Maximum, Minimum, Sum
Max_attached_users	INTENSITY	INTEGER	Maximum number of attached users within the SGSN area.	M117440578.S117457219	Constant	Average, hustrafbh, Maximum, Minimum, Sum
Max_Atted_user_of_connectPLMN	INTENSITY	INTEGER	The recorded maximum number of 3G attached subscrabers of connect PLMN within the SGSN area.	M117440578.S117457228	Average	Average, hustrafbh, Maximum, Minimum, Sum

Max_Atted_users_of_home_PLMN	INTENSITY	INTEGER	The recorded maximum number of 3G attached subscrabers of home PLMN within the SGSN area.	M117440578.S117457225	Average	Average, hustrafbh, Maximum, Minimum, Sum
Max_users_at_PMM_CONNECTED_status	INTENSITY	INTEGER	The recorded maximum number of users in the "PMM-CONNECTED" status within the SGSN area.	M117440578.S117457216	Constant	Average, hustrafbh, Maximum, Minimum, Sum
Max_users_at_PMM_IDLE_status	INTENSITY	INTEGER	The recorded maximum number of users in the "PMM-IDLE" status within the SGSN area.	M117440578.S117457214	Constant	Average, hustrafbh, Maximum, Minimum, Sum
New_attach_success	ACCUMULATION	INTEGER	Total number of successful GPRS attachments.	M117440578.S117457221	Sum	hustrafbh, Sum
Realtime_Att_user_connectPLMN	INTENSITY	INTEGER	The realtime total number of 3G attached subscrabers of connect PLMN in this SGSN.	M117440578.S117457226	Average	Average, hustrafbh, Maximum, Minimum, Sum
Realtime_Att_user_homePLMN	INTENSITY	INTEGER	The realtime total number of 3G attached subscrabers of home PLMN in	M117440578.S117457223	Average	Average, hustrafbh, Maximum,

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			this SGSN.			Minimum, Sum
Realtime_attached_users	INTENSITY	INTEGER	The arithmetical mean of the number of attached users within this SGSN.	M117440578.S117457217	Average	Average, hustrafbh, Maximum, Minimum, Sum
Realtime_HSDPA_users	INTENSITY	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: The realtime number of HSDPA users	M117440578.S117457231	Average	Average, hustrafbh, Maximum, Minimum, Sum
Realtime_HSPA_users	INTENSITY	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: The realtime number of HSPA users	M117440578.S117457229	Average	Average, hustrafbh, Maximum, Minimum, Sum
Realtime_HSUPA_users	INTENSITY	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: The realtime number of HSUPA users	M117440578.S117457230	Average	Average, hustrafbh, Maximum, Minimum, Sum
Total_attach_duration	ACCUMULATION	INTEGER	Total number of 3G users ever attached within the measurement period.	M117440578.S117457220	Sum	hustrafbh, Sum

7.31.54SGSN.Huawei.GPRS.Iu_Mode_Security

Iu Mode Security measurement

KPI	Type	Data	Description	Derivation	Default	Other

		Type			Aggregator	Aggregators
_%_Authentication_success	PERCENTAGE	FLOAT	Percentage of successful authentications within this SGSN.	100 * {Authentication_success}/ {Authentication_request}	Average	Average, hustrafbh
_%_Identity_success	PERCENTAGE	FLOAT	Percentage of successful identification processes initiated by this SGSN.	100 * {Identity_success}/ {Identity_request}	Average	Average, hustrafbh
_%_P_TMSI_reallocation_success	PERCENTAGE	FLOAT	Percentage of successfully executed P-TMSI reallocation processes within this SGSN.	100 * {P_TMSI_reallocation_success}/ {P_TMSI_reallocation_request}	Average	Average, hustrafbh
_%_Security_mode_control_success	PERCENTAGE	FLOAT	Percentage of successful ciphering mode control procedures initiated by this SGSN.	100 * {Security_mode_control_success}/ {Security_mode_control_request}	Average	Average, hustrafbh
Auth_and_cypher_reject	ACCUMULATION	INTEGER	Number of "AUTHENTICATION AND CIPHERING REJECT" messages sent.	M117440576.S117457024	Sum	hustrafbh, Sum
Auth_and_cypher_response	ACCUMULATION	INTEGER	Number of "AUTHENTICATION AND CIPHERING RESPONSE" messages	M117440576.S117457023	Sum	hustrafbh, Sum

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			received.			
Authentication_request	ACCUMULATION	INTEGER	Number of authentications started within this SGSN.	M117440576.S117457015	Sum	hustrafbh, Sum
Authentication_success	ACCUMULATION	INTEGER	Number of successful authentications within this SGSN.	M117440576.S117457016	Sum	hustrafbh, Sum
Identity_req_with_IMEI_IMEISV	ACCUMULATION	INTEGER	Number of ID requests initiated by SGSN(with IMEI or IMEISV).	M117440576.S117457029	Sum	hustrafbh, Sum
Identity_request	ACCUMULATION	INTEGER	Number of requests for identification initiated by this SGSN.	M117440576.S117457017	Sum	hustrafbh, Sum
Identity_succ_with_IMEI_IMEISV	ACCUMULATION	INTEGER	Number of successful identifications(with IMEI or IMEISV).	M117440576.S117457030	Sum	hustrafbh, Sum
Identity_success	ACCUMULATION	INTEGER	Number of successful identification processes initiated by this SGSN.	M117440576.S117457018	Sum	hustrafbh, Sum
IMEI_check_request	ACCUMULATION	INTEGER	Number of IMEI check processes initiated by this SGSN.	M117440576.S117457021	Sum	hustrafbh, Sum
IMEI_check_response	ACCUMULATION	INTEGER	Number of successful IMEI check processes initiated by this SGSN.	M117440576.S117457022	Sum	hustrafbh, Sum
Iu_mode_SIM_	ACCUMULA	INTEG	Number of	M117440576.S1	Sum	hustrafbh

authentication_request_times	TION	ER	authentication requests initiated by SGSN.	17457025		, Sum
Iu_mode_SIM_authentication_success_times	ACCUMULATION	INTEGER	Number of successful authentications.	M117440576.S1 17457026	Sum	hustrafbh, Sum
Iu_mode_USIM_authentication_request_times	ACCUMULATION	INTEGER	Number of authentication requests initiated by SGSN.	M117440576.S1 17457027	Sum	hustrafbh, Sum
Iu_mode_USIM_authentication_success_times	ACCUMULATION	INTEGER	Number of successful authentications.	M117440576.S1 17457028	Sum	hustrafbh, Sum
P_TMSI_reallocation_request	ACCUMULATION	INTEGER	Number of requests for P-TMSI reallocation displayed within this SGSN or included in the location update process.	M117440576.S1 17457013	Sum	hustrafbh, Sum
P_TMSI_reallocation_success	ACCUMULATION	INTEGER	Number of successfully executed P-TMSI reallocation processes within this SGSN.	M117440576.S1 17457014	Sum	hustrafbh, Sum
Security_mode_control_request	ACCUMULATION	INTEGER	Definition Number of requests for ciphering mode control initiated by this SGSN.	M117440576.S1 17457019	Sum	hustrafbh, Sum
Security_mode_control_success	ACCUMULATION	INTEGER	Number of successful ciphering mode	M117440576.S1 17457020	Sum	hustrafbh, Sum

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			control procedures initiated by this SGSN.			

7.31.55SGSN.Huawei.GPRS.Iu_Mode_Service_Handover

Iu Mode Service Handover measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
HO_to_GSM_shall_not_be_performed	ACCUMULATION	INTEGER	Number of Iu service handovers that the result is "shall not be" handed over to 2G GSM.	M117440660.S117465415	Sum	hustrafbh, Sum
HO_to_GSM_should_be_performed	ACCUMULATION	INTEGER	Number of Iu service handovers that the result is "should be" handed over to 2G GSM.	M117440660.S117465413	Sum	hustrafbh, Sum
HO_to_GSM_should_not_be_performed	ACCUMULATION	INTEGER	Number of Iu service handovers that the result is "should not be" handed over to 2G GSM.	M117440660.S117465414	Sum	hustrafbh, Sum

7.31.56SGSN.Huawei.GPRS.Iu_Mode_Service_Request

Iu Mode Service Request measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
_%_Request_dat	PERCENTAGE	FLOAT	Percentage of subscriber	100 * {Service_Request_	Average	Average, hustrafbh

a_caused_success			successes in initiating service requests of the data type.	data_cause_suc}/ {Service_Request_Data_cause}		
_%_Request_signalling_caused_success	PERCENTAGE	FLOAT	Percentage of subscriber successes in initiating service requests of the signaling type.	100 * {Service_Request_signalling_cause_suc}/ {Service_Request_signalling_cause}	Average	Average, hustrafbh
_%_Request_success	PERCENTAGE	FLOAT	Percentage of successful service requests initiated by the subscriber.	100 * {Service_Request_success}/ {Service_Request}	Average	Average, hustrafbh
service_reject_msg_sent_by_SGSN	ACCUMULATION	INTEGER	Number of rejected service requests initiated by the subscriber.	M117440579.S117457319	Sum	hustrafbh, Sum
Service_Request_data_cause_suc	ACCUMULATION	INTEGER	Number of subscriber successes in initiating service requests of the data type.	M117440579.S117457318	Sum	hustrafbh, Sum
Service_Request_Data_cause	ACCUMULATION	INTEGER	Number of attempts by the subscriber in initiating service requests of the data type.	M117440579.S117457317	Sum	hustrafbh, Sum
Service_Request_signalling_cause_suc	ACCUMULATION	INTEGER	Number of subscriber successes in initiating service requests	M117440579.S117457316	Sum	hustrafbh, Sum

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			of the signaling type.			
Service_Request_signalling_cause	ACCUMULATION	INTEGER	Number of attempts by the subscriber in initiating service requests of the signaling type.	M117440579.S117457315	Sum	hustrafbh, Sum
Service_Request_success	ACCUMULATION	INTEGER	Number of successful service requests initiated by the subscriber.	M117440579.S117457314	Sum	hustrafbh, Sum
Service_Request	ACCUMULATION	INTEGER	Number of attempts by the subscriber in initiating service requests.	M117440579.S117457313	Sum	hustrafbh, Sum
USPU_drop_Serv_req_flw_ctrl	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022 :USPU drop Service request packets of 3G due to flow control	M117440579.S117457320	Sum	hustrafbh, Sum

7.31.57SGSN.Huawei.GPRS.Iu_Mode_SM_L3

Iu Mode SM L3 measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
L3_SM_msg_rec	ACCUMULATION	INTEGER	Number of L3 signalling received by SGSN 3G SM.	M117440603.S117459713	Sum	hustrafbh, Sum
L3_SM_msg_	ACCUMULA	INTEG	Number of L3	M117440603.S1174	Sum	hustrafbh

sent	TION	ER	signalling sent by SGSN 3G SM.	59714		, Sum

7.31.58SGSN.Huawei.GPRS.Iu_Mode_SM_Resource

Iu Mode SM Resource measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
Act_PDP_context_success	ACCUMULATION	INTEGER	Total number of successful 3G PDP contexts activation.	M117440606.S117460022	Sum	hustrafbh, Sum
Avg_act_PDP_Sessions_background	INTENSITY	INTEGER	Arithmetical mean of active PDP contexts for QoS class Background within the measurement period.	M117440606.S117460016	Average	Average, hustrafbh, Maximum, Minimum, Sum
Avg_act_PDP_Sessions_conversation	INTENSITY	INTEGER	Arithmetical mean of active PDP contexts for QoS class Conversation within the measurement period.	M117440606.S117460014	Average	Average, hustrafbh, Maximum, Minimum, Sum
Avg_act_PDP_Sessions_interactive	INTENSITY	INTEGER	Arithmetical mean of active PDP contexts for QoS class Interactive within the measurement period.	M117440606.S117460013	Average	Average, hustrafbh, Maximum, Minimum, Sum

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Avg_act_PDP_Sessions_streaming	INTENSITY	INTEGER	Arithmetical mean of active PDP contexts for QoS class Streaming within the measurement period.	M117440606.S117460015	Average	Average, hustrafbh, Maximum, Minimum, Sum
Avg_active_PDP_context	INTENSITY	INTEGER	Arithmetical mean of active PDP contexts.	M117440606.S117460019	Average	Average, hustrafbh, Maximum, Minimum, Sum
Avg_PDP_act_duration	INTENSITY	INTEGER	Mean activation duration of 3G sessions within the measurement period.	M117440606.S117460024	Average	Average, hustrafbh, Maximum, Minimum, Sum
Avg_users_with_active_PDP_context	INTENSITY	INTEGER	Arithmetical mean of mobile users with PDP context activated (i.e. the users are able to transmit/ receive GPRS packet data).	M117440606.S117460017	Average	Average, hustrafbh, Maximum, Minimum, Sum
Max_active_PDP_context	INTENSITY	INTEGER	Maximum recorded number of the active PDP contexts.	M117440606.S117460020	Constant	Average, hustrafbh, Maximum, Minimum, Sum
Max_users_with_active_PDP_context	INTENSITY	INTEGER	Maximum recorded number of mobile users with PDP	M117440606.S117460018	Constant	Average, hustrafbh, Maximum,

			context activated (i.e. the users are able to transmit/ receive GPRS packet data).			Minimum, Sum
Realtime_PDP_context	INTENSITY	INTEGER	Number of activated 3G sessions within the measurement period.	M117440606.S117460023	Average	Average, hustrafbh, Maximum, Minimum, Sum
Total_PDP_act_duration	ACCUMULATION	INTEGER	Total activation duration of the 3G sessions within the measurement period.	M117440606.S117460021	Sum	hustrafbh, Sum

7.31.59SGSN.Huawei.GPRS.Iu_mode_tunnel_SM

Iu mode tunnel measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
PDP_1Tunnel_PDP_2Tunnel_fail	ACCUMULATION	INTEGER	Number of One Tunnel PDP context changed to Two Tunnel PDP context failure	M117440683.S117471115	Sum	hustrafbh
PDP_1Tunnel_PDP_2Tunnel_succ	ACCUMULATION	INTEGER	Number of One Tunnel PDP context changed to Two Tunnel PDP context success	M117440683.S117471113	Sum	hustrafbh

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PDP_2Tunnel_PDP_1Tunnel_fail	ACCUMULATION	INTEGER	Number of Two Tunnel PDP context changed to One Tunnel PDP context failure	M117440683.S117471116	Sum	hustrafbh
PDP_2Tunnel_PDP_1Tunnel_succ	ACCUMULATION	INTEGER	Number of Two Tunnel PDP context changed to One Tunnel PDP context success	M117440683.S117471114	Sum	hustrafbh

7.31.60SGSN.Huawei.GPRS.Iu_Mode_User_Access_Reject

Iu Mode User Access Reject measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
High_level_user_access_reject	ACCUMULATION	INTEGER	Number of times that the PDP context activation is rejected for high class users in Iu mode.	M117440662.S117465613	Sum	hustrafbh, Sum
Low_level_user_access_reject	ACCUMULATION	INTEGER	Number of times that the PDP context activation is rejected for low class users in Iu mode.	M117440662.S117465615	Sum	hustrafbh, Sum
Normal_user_access_reject	ACCUMULATION	INTEGER	Number of times that the PDP context activation is rejected for normal class users in Iu mode.	M117440662.S117465614	Sum	hustrafbh, Sum

7.31.61SGSN.Huawei.GPRS.LCS

LCS measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
_%_MS_init_loc_srvc_success	PERCENTAGE	FLOAT	Percentage of successful LCS MO procedures.	100 * {MS_init_loc_srvc_success}/ {MS_init_loc_srvc_request}	Average	Average, hustrafbh
_%_MS_terminated_loc_srvc_success	PERCENTAGE	FLOAT	Percentage of successful LCS MO procedures.	100 * {MS_terminated_loc_srvc_success}/ {MS_terminated_loc_srvc_request}	Average	Average, hustrafbh
_%_Network_init_loc_srvc_success	PERCENTAGE	FLOAT	Percentage of successful LCS NI procedures.	100 * {Network_init_loc_srvc_success}/ {Network_init_loc_srvc_request}	Average	Average, hustrafbh
LCS_LDR_fail_internal_timeout	ACCUMULATION	INTEGER	Number of unsuccessful LDR procedures with cause INTERNAL_TIMEOUT.	M117440628.S117462254	Sum	hustrafbh, Sum
LCS_LDR_fail_mt_lr_restart	ACCUMULATION	INTEGER	Number of unsuccessful LDR procedures with cause MTLR_RESTART.	M117440628.S117462255	Sum	hustrafbh, Sum
LCS_LDR_fail_normal	ACCUMULATION	INTEGER	Number of unsuccessful LDR procedures with cause	M117440628.S117462253	Sum	hustrafbh, Sum

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			NORMAL.			
LCS_LDR_fail_not_normal	ACCUMULATION	INTEGER	Number of unsuccessful LDR procedures with cause INTERNAL_TIMEOUT, MTLR_RESTART, PRIVACY_VIOLATION and SHAPE_OF_LOCATION_ESTIMATE_NOT_SUPPORTED.	{LCS_LDR_fail_internal_timeout} + {LCS_LDR_fail_mt_lr_restart} + {LCS_LDR_fail_privacy_violation} + {LCS_LDR_fail_shape_of_loc_not_supp}	Sum	hustrafbh, Sum
LCS_LDR_fail_privacy_violation	ACCUMULATION	INTEGER	Number of unsuccessful LDR procedures with cause PRIVACY_VIOLATION.	M117440628.S117462256	Sum	hustrafbh, Sum
LCS_LDR_fail_shape_of_loc_not_supp	ACCUMULATION	INTEGER	Number of unsuccessful LDR procedures with cause SHAPE_OF_LOCATION_ESTIMATE_NOT_SUPPORTED.	M117440628.S117462257	Sum	hustrafbh, Sum
LCS_LDR_GMLC_cancel_deferred_loc	ACCUMULATION	INTEGER	Number of deferred locations canceled by the GMLC in the LDR procedure.	M117440628.S117462258	Sum	hustrafbh, Sum
LCS_LDR_HLR_cancel_location	ACCUMULATION	INTEGER	Number of the CANCEL LOCATION messages received from HLR in the LDR procedure.	M117440628.S117462262	Sum	hustrafbh, Sum
LCS_LDR_ms	ACCUMULA	INTEG	Number of	M117440628.S11	Sum	hustrafbh

_present_in_other_SGSN	TION	ER	presentations of MS in another SGSN in the LDR procedure.	7462260		, Sum
LCS_LDR_ms_present_in_this_SGSN	ACCUMULATION	INTEGER	Number of presentations of MS in this SGSN in the LDR procedure.	M117440628.S117462259	Sum	hustrafbh, Sum
LCS_LDR_permit	ACCUMULATION	INTEGER	Number of locations permitted in the LCS LDR procedure.	M117440628.S117462243	Sum	hustrafbh, Sum
LCS_LDR_refuse_data_lost	ACCUMULATION	INTEGER	Number of locations refused due to DATA_MISSING in the LDR procedure.	M117440628.S117462248	Sum	hustrafbh, Sum
LCS_LDR_refuse_facility_not_supp	ACCUMULATION	INTEGER	Number of locations refused due to FACILITY_NOT_SUPPORTED in the LDR procedure.	M117440628.S117462250	Sum	hustrafbh, Sum
LCS_LDR_refuse_illegal_ms	ACCUMULATION	INTEGER	Number of locations refused due to ILLEGAL_MS in the LDR procedure.	M117440628.S117462247	Sum	hustrafbh, Sum
LCS_LDR_refuse_system_failure	ACCUMULATION	INTEGER	Number of locations refused due to SYSTEM_FAILURE in the LDR	M117440628.S117462246	Sum	hustrafbh, Sum

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			procedure.			
LCS_LDR_refuse_unauth_LCS_client	ACCUMULATION	INTEGER	Number of locations refused due to UNAUTHORIZED_LCS_CLIENT in the LDR procedure.	M117440628.S117462251	Sum	hustrafbh, Sum
LCS_LDR_refuse_unauthorized_GMLC	ACCUMULATION	INTEGER	Number of locations refused due to UNAUTHORIZED_REQUESTING_NETWORK in the LDR procedure.	M117440628.S117462244	Sum	hustrafbh, Sum
LCS_LDR_refuse_unexp_data_value	ACCUMULATION	INTEGER	Number of locations refused due to UNEXPECTED_DATA_VALUE in the LDR procedure.	M117440628.S117462249	Sum	hustrafbh, Sum
LCS_LDR_refuse_unknown_subscriber	ACCUMULATION	INTEGER	Number of locations refused due to UNIDENTIFIED_SUBSCRIBER in the LDR procedure.	M117440628.S117462245	Sum	hustrafbh, Sum
LCS_LDR_request	ACCUMULATION	INTEGER	Number of LCS LDR procedure requests.	M117440628.S117462242	Sum	hustrafbh, Sum
LCS_LDR_SGSN_delete_common_MM_ctxt	ACCUMULATION	INTEGER	Number of SGSN cleanups of the COMMON MM CONTEXT of an MS in the LDR procedure.	M117440628.S117462261	Sum	hustrafbh, Sum
LCS_LDR_succeed	ACCUMULATION	INTEGER	Number of successful LDR	M117440628.S117462252	Sum	hustrafbh, Sum

			procedures.			
MS_init_loc_srvc_fail_data_drop	ACCUMULATION	INTEGER	Number of unsuccessful LCS MO procedures with cause LCS_GSS_DATA_MISSING.	M117440628.S117462218	Sum	hustrafbh, Sum
MS_init_loc_srvc_fail_ME_unsupp	ACCUMULATION	INTEGER	Number of unsuccessful LCS MO procedures with cause LCS_GSS_FACILITY_NOT_SUPPORTED.	M117440628.S117462217	Sum	hustrafbh, Sum
MS_init_loc_srvc_fail_method_fail	ACCUMULATION	INTEGER	Number of unsuccessful LCS MO procedures with cause LCS_GSS_POSITION_METHOD_FAILURE.	M117440628.S117462215	Sum	hustrafbh, Sum
MS_init_loc_srvc_fail_system_error	ACCUMULATION	INTEGER	Number of unsuccessful LCS MO procedures with cause LCS_GSS_SYSTEM_FAILURE.	M117440628.S117462220	Sum	hustrafbh, Sum
MS_init_loc_srvc_fail_user_unsubs	ACCUMULATION	INTEGER	Number of unsuccessful LCS MO procedures with cause LCS_GSS_SS_SUBSCRIPTION_VIOLATION.	M117440628.S117462216	Sum	hustrafbh, Sum
MS_init_loc_srvc_fail_value_error	ACCUMULATION	INTEGER	Number of unsuccessful LCS MO procedures with cause	M117440628.S117462219	Sum	hustrafbh, Sum

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			LCS_GSS_UNEXPECTED_DATA_VALUE.			
MS_init_loc_srvc_request	ACCUMULATION	INTEGER	Number of LCS MO procedure requests.	M117440628.S117462213	Sum	hustrafbh, Sum
MS_init_loc_srvc_success	ACCUMULATION	INTEGER	Number of successful LCS MO procedures.	M117440628.S117462214	Sum	hustrafbh, Sum
MS_term_loc_srvc_fail_data_drop	ACCUMULATION	INTEGER	Number of unsuccessful LCS MT procedures with cause DATA_MISSING.	M117440628.S117462228	Sum	hustrafbh, Sum
MS_term_loc_srvc_fail_illegal_cl	ACCUMULATION	INTEGER	Number of unsuccessful LCS MT procedures with cause UNAUTHORIZED_LCS_CLIENT.	M117440628.S117462233	Sum	hustrafbh, Sum
MS_term_loc_srvc_fail_illegal_GMLC	ACCUMULATION	INTEGER	Number of unsuccessful LCS MT procedures with cause UNAUTHORIZED_REQUESTING_NETWORK.	M117440628.S117462224	Sum	hustrafbh, Sum
MS_term_loc_srvc_fail_illegal_ME	ACCUMULATION	INTEGER	Number of unsuccessful LCS MT procedures with cause ILLEGAL_EQUIPMENT.	M117440628.S117462231	Sum	hustrafbh, Sum
MS_term_loc_srvc_fail_illegal_MS	ACCUMULATION	INTEGER	Number of unsuccessful LCS MT procedures with cause ILLEGAL_MS.	M117440628.S117462232	Sum	hustrafbh, Sum
MS_term_loc_	ACCUMULA	INTEG	Number of	M117440628.S11	Sum	hustrafbh

srvc_fail_ME_unsupport	TION	ER	unsuccessful LCS MT procedures with cause FACILITY_NOT_SUPPORTED.	7462230		, Sum
MS_term_loc_srvc_fail_method_fail	ACCUMULATION	INTEGER	Number of unsuccessful LCS MT procedures with cause POSITION_METHOD_FAILURE.	M117440628.S117462223	Sum	hustrafbh, Sum
MS_term_loc_srvc_fail_MS_unattached	ACCUMULATION	INTEGER	Number of unsuccessful LCS MT procedures with cause ABSENT_SUBSCRIBER.	M117440628.S117462227	Sum	hustrafbh, Sum
MS_term_loc_srvc_fail_system_fault	ACCUMULATION	INTEGER	Number of unsuccessful LCS MT procedures with cause SYSTEM_FAILURE.	M117440628.S117462226	Sum	hustrafbh, Sum
MS_term_loc_srvc_fail_user_unknown	ACCUMULATION	INTEGER	Number of unsuccessful LCS MT procedures with cause UNIDENTIFIED_SUBSCRIBER.	M117440628.S117462225	Sum	hustrafbh, Sum
MS_term_loc_srvc_fail_value_error	ACCUMULATION	INTEGER	Number of unsuccessful LCS MT procedures with cause UNEXPECTED_DATA_VALUE.	M117440628.S117462229	Sum	hustrafbh, Sum
MS_terminated_loc_srvc_request	ACCUMULATION	INTEGER	Number of LCS MT procedure requests.	M117440628.S117462221	Sum	hustrafbh, Sum

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MS_terminated_loc_srvc_success	ACCUMULATION	INTEGER	Number of successful LCS MO procedures.	M117440628.S117462222	Sum	hustrafbh, Sum
Network_init_LCS_fail_cl_unreach	ACCUMULATION	INTEGER	Number of unsuccessful LCS NI procedures with cause M_MNT_LCS_CLIENT_CAN_NOT_REACH.	M117440628.S117462240	Sum	hustrafbh, Sum
Network_init_LCS_fail_ME_unsupport	ACCUMULATION	INTEGER	Number of unsuccessful LCS NI procedures with cause M_MNT_LCS_FACILITY_NOT_SUPPORT.	M117440628.S117462238	Sum	hustrafbh, Sum
Network_init_LCS_fail_method_fail	ACCUMULATION	INTEGER	Number of unsuccessful LCS NI procedures with cause M_MNT_LCS_LOCATION_FAILED.	M117440628.S117462237	Sum	hustrafbh, Sum
Network_init_LCS_fail_MS_unattached	ACCUMULATION	INTEGER	Number of unsuccessful LCS NI procedures with cause M_MNT_LCS_SUB_ABSENT.	M117440628.S117462236	Sum	hustrafbh, Sum
Network_init_LCS_fail_report_GMLC_fail	ACCUMULATION	INTEGER	Number of unsuccessful LCS NI procedures with cause M_MNT_LCS_REPORT_GMLC_FAILED.	M117440628.S117462239	Sum	hustrafbh, Sum
Network_init_LCS_fail_system_fail	ACCUMULATION	INTEGER	Number of unsuccessful LCS NI procedures with cause M_MNT_LCS_S	M117440628.S117462241	Sum	hustrafbh, Sum

			YSTEM_FAILURE.			
Network_init_loc_srvc_request	ACCUMULATION	INTEGER	Number of LCS NI procedure requests.	M117440628.S117462234	Sum	hustrafbh, Sum
Network_init_loc_srvc_success	ACCUMULATION	INTEGER	Number of successful LCS NI procedures.	M117440628.S117462235	Sum	hustrafbh, Sum

7.31.62SGSN.Huawei.GPRS.LI_Messages_Sent

LI Messages Sent measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
Control_msg_rec	ACCUMULATION	INT8	Obsolete from R007. Number of control messages received	M117440647.S117464120	Sum	hustrafbh, Sum
Control_msg_sent	ACCUMULATION	INT8	Obsolete from R007. Number of control messages sent	M117440647.S117464119	Sum	hustrafbh, Sum
IDP_lost_due_send_buffer_overflow	ACCUMULATION	INTEGER	Obsolete from R007. Number of IDP amount lost due to send buffer overflow	M117440647.S117464118	Sum	hustrafbh, Sum
IDP_message_pkt_bytes_sent_kB	ACCUMULATION	INT8	Obsolete from R007. Number of IDP message packet bytes sent (kB)	M117440647.S117464116	Sum	hustrafbh, Sum
IDP_message_pkts_sent	ACCUMULATION	INTEGER	Obsolete from R007. Number	M117440647.S117464115	Sum	hustrafbh, Sum

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			of IDP message packets sent			
IRI_lost_due_send_buffer_overflow	ACCUMULATION	INTEGER	Obsolete from R007. Number of IRI amount lost due to send buffer overflow	M117440647.S117464117	Sum	hustrafbh, Sum
IRI_message_pkt_bytes_sent	ACCUMULATION	INT8	Obsolete from R007. Number of IRI message packet bytes sent (kB)	M117440647.S117464114	Sum	hustrafbh, Sum
IRI_message_pkts_sent	ACCUMULATION	INTEGER	Obsolete from R007. Number of IRI message packets sent	M117440647.S117464113	Sum	hustrafbh, Sum

7.31.63SGSN.Huawei.GPRS.MAP_Basic_Traffic

MAP Basic Traffic measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
Auth_set_request_net_synchronize_fail	ACCUMULATION	INTEGER	The number of times SGSN obtains authentication sets from HLR and requests for synchronization of the authentication sequence parameter of this user due to failure of authentication on the received MS.	M117440610.S117460423	Sum	hustrafbh, Sum
Authentication_fail_report	ACCUMULATION	INTEGER	The number of times reporting	M117440610.S117460424	Sum	hustrafbh, Sum

			the failure of authentication initiated by the user.			
Authentication_set_request	ACCUMULATION	INTEGER	Number of authentication set request message sent from the SGSN to the HLR.	M117440610.S117460418	Sum	hustrafbh, Sum
Check_IMEI_requests_for_Gb_Iu_mode	ACCUMULATION	INTEGER	Number of times sending check IMEI request for both 2G and 3G to the EIR.	M117440610.S117460429	Sum	hustrafbh, Sum
EIR_success_returns_result_Black	ACCUMULATION	INTEGER	Number of times EIR returns black result.	M117440610.S117460432	Sum	hustrafbh, Sum
EIR_success_returns_result_Grey	ACCUMULATION	INTEGER	Number of times EIR returns grey result.	M117440610.S117460431	Sum	hustrafbh, Sum
EIR_success_returns_result_White	ACCUMULATION	INTEGER	Number of times EIR returns white result.	M117440610.S117460430	Sum	hustrafbh, Sum
Empty_response_when_auth_set_request	ACCUMULATION	INTEGER	Number of times HLR returns empty authentication sets.	M117440610.S117460421	Sum	hustrafbh, Sum
Foreign_roaming_user_loc_update	ACCUMULATION	INTEGER	Number of times SGSN initiates location update	M117440610.S117460415	Sum	hustrafbh, Sum

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			to HLR (the user is a foreign roaming user).			
HPLMN_user_loc_update	ACCUMULATION	INTEGER	Number of times SGSN initiates location update to HLR (the user is in this mobile network).	M117440610.S117460413	Sum	hustrafbh, Sum
Loc_update_local_subs_data_validity	ACCUMULATION	INTEGER	Number of times it is unnecessary to insert user data into HLR for the user data saved locally are valid when the location update is initiated (due to Super-Charger).	M117440610.S117460417	Sum	hustrafbh, Sum
Loc_update_refused	ACCUMULATION	INTEGER	Number of times HLR returns the message that the user attachment is rejected when the location update is initiated.	M117440610.S117460416	Sum	hustrafbh, Sum
MAP_Activate_Trace_Mode_req	ACCUMULATION	INTEGER	Number of "activate trace mode request" received by SGSN.	M117440610.S117460441	Sum	hustrafbh, Sum
MAP_ActiveTraceMode_success_resp	ACCUMULATION	INTEGER	Number of "Activate trace mode success response" sent from SGSN.	M117440610.S117460442	Sum	hustrafbh, Sum

MAP_Cancel_Loc_success_resp	ACCUMULATION	INTEGER	Number of "Cancel location success response" sent from SGSN.	M117440610.S117460438	Sum	hustrafbh, Sum
MAP_DeactvTraceMode_req	ACCUMULATION	INTEGER	Number of "deactivate trace mode request" received by SGSN.	M117440610.S117460443	Sum	hustrafbh, Sum
MAP_DeactvTraceMode_success_resp	ACCUMULATION	INTEGER	Number of "deactivate trace mode success response" sent from SGSN.	M117440610.S117460444	Sum	hustrafbh, Sum
MAP_Delete_Sub_Data_success_resp	ACCUMULATION	INTEGER	Number of "Delete subscriber data success response" sent from SGSN.	M117440610.S117460440	Sum	hustrafbh, Sum
MAP_Dialogue_Close_ind_sent	ACCUMULATION	INTEGER	Number of "MAP dialog close indication" sent from SGSN.	M117440610.S117460451	Sum	hustrafbh, Sum
MAP_Dialogue_Close_req_sent	ACCUMULATION	INTEGER	Number of "MAP dialog close request" sent from SGSN.	M117440610.S117460450	Sum	hustrafbh, Sum
MAP_Dialogue_Open_ind_received	ACCUMULATION	INTEGER	Number of "MAP Dialogue Open indication" received by	M117440610.S117460448	Sum	hustrafbh, Sum

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			SGSN.			
MAP_Dialogue_Open_req	ACCUMULATION	INTEGER	Number of "MAP dialog open request" sent from SGSN.	M117440610.S117460446	Sum	hustrafbh, Sum
MAP_Dialogue_Open_resp_received	ACCUMULATION	INTEGER	Number of "MAP Dialogue Open response" received by SGSN.	M117440610.S117460447	Sum	hustrafbh, Sum
MAP_Dialogue_Open_resp_sent	ACCUMULATION	INTEGER	Number of "MAP dialog open response" sent from SGSN.	M117440610.S117460449	Sum	hustrafbh, Sum
MAP_Dialogue_U_Abort_req_sent	ACCUMULATION	INTEGER	Number of "MAP dialog U_abort request" sent from SGSN.	M117440610.S117460452	Sum	hustrafbh, Sum
MAP_Dialogue_U_and_P_Abort_ind_sent	ACCUMULATION	INTEGER	Number of "MAP Dialogue U_Abort P_Abort indication" received by SGSN.	M117440610.S117460453	Sum	hustrafbh, Sum
MAP_Insert_Sub_Data_success_resp	ACCUMULATION	INTEGER	Number of "Insert subscriber data success response" sent from SGSN.	M117440610.S117460439	Sum	hustrafbh, Sum
MAP_Purge_MS_success_resp	ACCUMULATION	INTEGER	Number of Purge MS success response received by SGSN.	M117440610.S117460435	Sum	hustrafbh, Sum
MAP_Purge_MS	ACCUMULA	INTEG	Number of	M117440610.S11	Sum	hustrafbh

_user_err_resp	TION	ER	Purge MS response with cause "user error" received by SGSN.	7460436		, Sum
MAP_Reset_req	ACCUMULATION	INTEGER	Number of "reset request" received by SGSN.	M117440610.S117460445	Sum	hustrafbh, Sum
MAP_Send_Auth_Info_user_err_resp	ACCUMULATION	INTEGER	Number of "send auth info response" with cause "user error" received by SGSN.	M117440610.S117460437	Sum	hustrafbh, Sum
MAP_UpdateGprsLoc_suc_resp	ACCUMULATION	INTEGER	Number of times HLR returns update gprs location success response.	M117440610.S117460433	Sum	hustrafbh, Sum
MAP_UpdateGprsLoc_user_err_resp	ACCUMULATION	INTEGER	Number of times HLR returns update gprs location response with cause "user error".	M117440610.S117460434	Sum	hustrafbh, Sum
Purge_MS	ACCUMULATION	INTEGER	Number of times SGSN initiates user purge to HLR.	M117440610.S117460425	Sum	hustrafbh, Sum
Quintuplets_return_for_auth_set_request	ACCUMULATION	INTEGER	Number of times HLR returns authentication quintuplets.	M117440610.S117460419	Sum	hustrafbh, Sum

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Receiving_HLR_cancel_loc	ACCUMULATION	INTEGER	Number of times receiving the HLR location cancellation.	M117440610.S117460426	Sum	hustrafbh, Sum
Receiving_HLR_del_subs_user_data	ACCUMULATION	INTEGER	Number of times receiving the HLR delete subscriber data.	M117440610.S117460428	Sum	hustrafbh, Sum
Receiving_HLR_delete_subscriber_datauser_data_for_user_in_Gb	ACCUMULATION	INTEGER	Number of times receiving the HLR delete subscriber data for user in Gb mode.	M117440610.S117460455	Sum	hustrafbh, Sum
Receiving_HLR_delete_subscriber_datauser_data_for_user_in_Iu	ACCUMULATION	INTEGER	Number of times receiving the HLR delete subscriber data for user in Iu mode.	M117440610.S117460457	Sum	hustrafbh, Sum
Receiving_HLR_insert_subs_data	ACCUMULATION	INTEGER	Number of times receiving the HLR insert user data.	M117440610.S117460427	Sum	hustrafbh, Sum
Receiving_HLR_insert_subscriber_data_for_user_in_Gb	ACCUMULATION	INTEGER	Number of times receiving the HLR insert user data for user in Gb mode.	M117440610.S117460454	Sum	hustrafbh, Sum
Receiving_HLR_insert_subscriber_data_for_user_in_Iu	ACCUMULATION	INTEGER	Number of times receiving the HLR insert user data for user in Iu mode.	M117440610.S117460456	Sum	hustrafbh, Sum
Triplets_return_for_auth_set_request	ACCUMULATION	INTEGER	Number of times HLR returns authentication triplets.	M117440610.S117460420	Sum	hustrafbh, Sum

Unsupport_ver_when_auth_set_request	ACCUMULATION	INTEGER	The number of times obtaining authentication sets from HLR while HLR returns the message that the version is not supported.	M117440610.S117460422	Sum	hustrafbh, Sum
VPLMN_roaming_user_loc_update	ACCUMULATION	INTEGER	Number of times SGSN initiates location update to HLR (the user is a national roaming user not in this mobile network).	M117440610.S117460414	Sum	hustrafbh, Sum

7.31.64SGSN.Huawei.GPRS.MAP_Common_Traffic_Procedure_Error

MAP Common Traffic Procedure Error measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
Abnormal_dialogue_MAP_P_ABORT_IND	ACCUMULATION	INTEGER	Number of dialogue terminations for the MAP lower layer detects the dialogue abnormality.	M117440612.S117460642	Sum	hustrafbh, Sum
Abnormity_detected_NOTICE_IND	ACCUMULATION	INTEGER	Number of times the peer bottom layer detects the	M117440612.S117460643	Sum	hustrafbh, Sum

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			dialogue abnormality.			
Abnormity_receive_NOTICE_IND	ACCUMULATION	INTEGER	Number of times receiving abnormal events from the peer.	M117440612.S117460645	Sum	hustrafbh, Sum
App_cancel_MAP_U_ABORT_IND	ACCUMULATION	INTEGER	Number of times the remote MAP cancels the dialogue due to a certain cause.	M117440612.S117460636	Sum	hustrafbh, Sum
App_cancel_MAP_U_ABORT_REQ	ACCUMULATION	INTEGER	Number of times the dialogue is canceled by the local MAP due to a certain cause.	M117440612.S117460632	Sum	hustrafbh, Sum
App_context_unsupp_OPEN_CNF_refused	ACCUMULATION	INTEGER	Number of times the dialogue is rejected for the remote MAP does not support the application context of this dialogue.	M117440612.S117460627	Sum	hustrafbh, Sum
App_context_unsupp_OPEN_RSP_refused	ACCUMULATION	INTEGER	Number of times the dialogue is rejected for the local MAP does not support the application context of this dialogue.	M117440612.S117460622	Sum	hustrafbh, Sum
App_error_MAP_U_ABORT_IND	ACCUMULATION	INTEGER	Number of dialogue terminations due to errors of the remote MAP	M117440612.S117460633	Sum	hustrafbh, Sum

			application program.			
Error_MAP_U_ABORT_REQ	ACCUMULATION	INTEGER	Number of dialogue terminations due to errors of the local MAP application program.	M117440612.S117460629	Sum	hustrafbh, Sum
Invalid_dest_OPEN_CNF_refused	ACCUMULATION	INTEGER	Number of times the dialogue initiated from the local end is rejected for there is no destination reference carried in it or the destination reference is invalid.	M117440612.S117460625	Sum	hustrafbh, Sum
Invalid_dest_OPEN_RSP_refused	ACCUMULATION	INTEGER	Definition Number of times the dialogue initiated from the peer is rejected for no destination reference is carried or the destination reference is invalid.	M117440612.S117460620	Sum	hustrafbh, Sum
Invalid_origin_OPEN_CNF_refused	ACCUMULATION	INTEGER	Number of times the dialogue initiated from	M117440612.S117460626	Sum	hustrafbh, Sum

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			the local end is rejected for there is no source reference carried in it or the source reference is invalid.			
Invalid_origin_OPEN_RSP_refused	ACCUMULATION	INTEGER	Number of times the dialogue initiated from the peer is rejected for there is no source reference carried in it or the source reference is invalid.	M117440612.S117460621	Sum	hustrafbh, Sum
Local_dialogue_refused_OPEN_RSP	ACCUMULATION	INTEGER	Number of times the local MAP rejects the dialogue initiated by the remote MAP (all causes).	M117440612.S117460613	Sum	hustrafbh, Sum
Maint_activity_MAP_P_ABORT_IND	ACCUMULATION	INTEGER	Number of dialogue terminations due to maintenance activity of the MAP lower layer.	M117440612.S117460640	Sum	hustrafbh, Sum
No_reason_OPEN_CNF_refused	ACCUMULATION	INTEGER	Number of times the dialogue initiated from the local end is rejected by the remote end or errors have been detected but no	M117440612.S117460624	Sum	hustrafbh, Sum

			specific cause has been given.			
No_reason_OPEN_RSP_refused	ACCUMULATION	INTEGER	Number of times the local MAP rejects the dialogue initiated by the peer but no specific cause is given.	M117440612.S117460619	Sum	hustrafbh, Sum
Notice_indications	ACCUMULATION	INTEGER	Definition Number of times MAP determines whether to terminate the dialogue when errors occur to the MAP lower layer protocol (all causes).	M117440612.S117460618	Sum	hustrafbh, Sum
P_ABORT_from_provider	ACCUMULATION	INTEGER	Number of times the dialogue is terminated for the MAP lower layer protocol checks the dialogue abnormality (all causes).	M117440612.S117460617	Sum	hustrafbh, Sum
Peer_dialogue_refused_OPEN_CNF	ACCUMULATION	INTEGER	Number of times the dialogue initiated by the local MAP is rejected by the peer (all causes).	M117440612.S117460614	Sum	hustrafbh, Sum

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Provider_malfunc_MAP_P_ABORT_IND	ACCUMULATION	INTEGER	Number of dialogue terminations for the continuous services cannot be provided due to fault of the MAP lower layer.	M117440612.S117460637	Sum	hustrafbh, Sum
Rejected_by_the_peer_NOTICE_IND	ACCUMULATION	INTEGER	Number of times the response is rejected by the peer.	M117440612.S117460644	Sum	hustrafbh, Sum
Resource_limitation_MAP_P_ABORT_IND	ACCUMULATION	INTEGER	Number of dialogue terminations due to limitation on the MAP lower layer resources.	M117440612.S117460639	Sum	hustrafbh, Sum
Support_dlg_release_MAP_P_ABORT_IND	ACCUMULATION	INTEGER	Number of dialogue terminations due to release of the resources at the MAP lower layer that support the dialogue.	M117440612.S117460638	Sum	hustrafbh, Sum
U_ABORT_IND_rec_from_remote	ACCUMULATION	INTEGER	Number of times the dialogue is terminated for the remote MAP checks the dialogue abnormality (all causes).	M117440612.S117460616	Sum	hustrafbh, Sum
U_ABORT_REQ_sent_by_local	ACCUMULATION	INTEGER	Number of times the dialogue is terminated for the local MAP	M117440612.S117460615	Sum	hustrafbh, Sum

			checks the dialogue abnormality (all causes).			
Unavail_res_MAP_U_ABORT_IND	ACCUMULATION	INTEGER	Number of dialogue terminations due to unavailability of the remote MAP resources.	M117440612.S117460635	Sum	hustrafbh, Sum
Unavail_res_MAP_U_ABORT_REQ	ACCUMULATION	INTEGER	Number of dialogue terminations due to unavailability of the local MAP resources.	M117440612.S117460631	Sum	hustrafbh, Sum
User_res_limit_MAP_U_ABORT_IND	ACCUMULATION	INTEGER	Number of dialogue terminations due to limitation on the remote MAP resources.	M117440612.S117460634	Sum	hustrafbh, Sum
User_resource_limit_MAP_U_ABORT_REQ	ACCUMULATION	INTEGER	Number of dialogue terminations due to limitation on local MAP resources.	M117440612.S117460630	Sum	hustrafbh, Sum
Ver_incomp_OPEN_CNF_refused	ACCUMULATION	INTEGER	Number of times the dialogue is rejected due to possible incompatibility of the local MAP version and the remote MAP version.	M117440612.S117460628	Sum	hustrafbh, Sum

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Ver_incomp_OPEN_RSP_refused	ACCUMULATION	INTEGER	Number of times the dialogue is rejected due to possible incompatibility of the local MAP version and the remote MAP version.	M117440612.S117460623	Sum	hustrafbh, Sum
Ver_incomp_P_ABORT_IND_cause	ACCUMULATION	INTEGER	Number of dialogue terminations due to the potential cause of version incompatibility of the MAP lower layer.	M117440612.S117460641	Sum	hustrafbh, Sum

7.31.65SGSN.Huawei.GPRS.MAP_Gc_Message_Transfer_Traffic

MAP Gc Message Transfer Traffic measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
Noting_ms_present	ACCUMULATION	INTEGER	Number of times HLR requests SGSN to forward user presence notice to GGSN.	M117440613.S117460715	Sum	hustrafbh, Sum
Sending_fail_report	ACCUMULATION	INTEGER	Number of times requesting SGSN to forward forwarding report that GGSN fails in requesting SGSN to forward messages to	M117440613.S117460714	Sum	hustrafbh, Sum

			HLR.			
Sending_routing_information	ACCUMULATION	INTEGER	Number of times requesting SGSN to forward routing information to HLR by GGSN.	M117440613.S117460713	Sum	hustrafbh, Sum

7.31.66SGSN.Huawei.GPRS.MAP_Signaling_Procedure_Error_and_Timeout

MAP Signaling Procedure Error and Timeout measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
Auth_fail_report_timer_timeout	ACCUMULATION	INTEGER	Number of times not receiving the authentication failure report request response within the specified time.	M117440611.S117460524	Sum	hustrafbh, Sum
Auth_set_timer_timeout_rec	ACCUMULATION	INTEGER	Number of times not receiving the send authetication info request response within the specified time.	M117440611.S117460523	Sum	hustrafbh, Sum
Data_missing_times	ACCUMULATION	INTEGER	Number of times the MAP protocol checks and finds that the mandatory	M117440611.S117460514	Sum	hustrafbh, Sum

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			parameter is missing in the received signaling.			
GPRS_fail_report_timer_timeout	ACCUMULATION	INTEGER	Number of times not receiving the failure report request response within the specified time.	M117440611.S117460526	Sum	hustrafbh, Sum
GPRS_routing_info_timer_timeout	ACCUMULATION	INTEGER	Number of times not receiving the routing information obtaining request response within the specified time.	M117440611.S117460525	Sum	hustrafbh, Sum
Location_update_timer_timeout	ACCUMULATION	INTEGER	Number of times not receiving the location update request response within the specified time.	M117440611.S117460521	Sum	hustrafbh, Sum
Other_error_times	ACCUMULATION	INTEGER	Number of errors other than the errors mentioned above during the MAP service processing.	M117440611.S117460520	Sum	hustrafbh, Sum
Purge_MS_timer_timeout	ACCUMULATION	INTEGER	Number of times not receiving the user purge request	M117440611.S117460522	Sum	hustrafbh, Sum

			response within the specified time.			
Ready_for_SM_timer_timeout	ACCUMULATION	INTEGER	Number of times not receiving the ReadyForSM request response within the specified time.	M117440611.S117460528	Sum	hustrafbh, Sum
Remote_system_fault_times	ACCUMULATION	INTEGER	Number of remote system faults during the MAP service processing.	M117440611.S117460519	Sum	hustrafbh, Sum
Roaming_restriction_times	ACCUMULATION	INTEGER	Number of times roaming by the user is restricted by HLR during the location update.	M117440611.S117460517	Sum	hustrafbh, Sum
Short_message_sending_timer_timeout	ACCUMULATION	INTEGER	Number of times not receiving the short message sending (SMMO) request response within the specified time.	M117440611.S117460527	Sum	hustrafbh, Sum
UE_checking_fail_report_timeouts	ACCUMULATION	INTEGER	Number of times not receiving the UE check request response within	M117440611.S117460529	Sum	hustrafbh, Sum

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			the specified time.			
Unexpected_data_value_times	ACCUMULATION	INTEGER	Number of times the MAP protocol checks and finds that the data in the received data do not comply with the data range stipulated in the protocol.	M117440611.S117460515	Sum	hustrafbh, Sum
Unknown_MS_reply_returns	ACCUMULATION	INTEGER	Number of times the user equipment does not exist in the EIR database.	M117440611.S117460513	Sum	hustrafbh, Sum
Unknown_user_times	ACCUMULATION	INTEGER	Number of times the user ID does not exist in the HLR database.	M117440611.S117460516	Sum	hustrafbh, Sum
User_detached_times	ACCUMULATION	INTEGER	Number of times HLR returns user detached message during the routing message obtaining.	M117440611.S117460518	Sum	hustrafbh, Sum

7.31.67SGSN.Huawei.GPRS.MBMS_Broadcast_Bearer_Resource

MBMS Bearer contexts measurement.

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
Average_Number_of_MBMS_Broadcast_Bearer_Contexts	INTENSITY	INTEGER	Arithmetical mean number of MBMS Bearer Contexts within	M117440674.S117467714	Average	Average, hustrafbh, Maximu

			the measurement period.			m, Minimum, Sum
Max_Number_of_MBMS_Broadcast_Bearer_Contexts	INTENSITY	INTEGER	Maximum recorded number of MBMS Bearer Contexts within the measurement period..	M117440674.S117467715	Average	Average, hustrafbh, Maximum, Minimum, Sum
Realtime_Number_of_MBMS_Broadcast_Bearer_Contexts	INTENSITY	INTEGER	Number of MBMS Bearer Contexts at the beginning of measurement period.	M117440674.S117467713	Average	Average, hustrafbh, Maximum, Minimum, Sum

7.31.68SGSN.Huawei.GPRS.MBMS_Broadcast_Session_Start

MBMS Broadcast session start message by SGSN

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
Receive_Gn_MBMS_Session_Start_Request	ACCUMULATION	INTEGER	Number of MBMS Session Start Request message received by SGSN from GGSN.	M117440672.S117467513	Sum	hustrafbh, Sum
Send_Gn_MBMS_Session_Start_Response_Accept	ACCUMULATION	INTEGER	Number of MBMS Session Start Response message sent by SGSN to GGSN indicating	M117440672.S117467514	Sum	hustrafbh, Sum

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			request accepted.			
Send_Gn_MBMS_Session_Start_Response_Reject	ACCUMULATION	INTEGER	Number of MBMS Session Start Response message sent by SGSN to GGSN indicating request rejected.	M117440672.S117467515	Sum	hustrafbh, Sum

7.31.69SGSN.Huawei.GPRS.MBMS_Broadcast_Session_Stop

MBMS Broadcast session stop message by SGSN

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
Receive_Gn_MBMS_Session_Stop_Request	ACCUMULATION	INTEGER	Number of MBMS Session Stop Request message received by SGSN from GGSN.	M117440673.S117467613	Sum	hustrafbh, Sum
Send_Gn_MBMS_Session_Stop_Response_Accept	ACCUMULATION	INTEGER	Number of MBMS Session Stop Response message sent by SGSN to GGSN indicating request accepted.	M117440673.S117467614	Sum	hustrafbh, Sum
Send_Gn_MBMS_Session_Stop_Response_Reject	ACCUMULATION	INTEGER	Number of MBMS Session Stop Response message sent by SGSN to GGSN indicating request	M117440673.S117467615	Sum	hustrafbh, Sum

			rejected.			

7.31.70SGSN.Huawei.GPRS.MTP_Signalling_Link

MTP Signalling Link measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
MTP_average_link_receive_load_every_link_erl	ERLANG	FLOAT	The mean value of receiving load of signalling link over NO.7 interface.	M117440622.S117461621	Average	Average, hustrafbh, Maximum, Minimum, Sum
MTP_average_link_send_load_every_link_erl	ERLANG	FLOAT	The mean value of sending load of signalling link over NO.7 interface.	M117440622.S117461620	Average	Average, hustrafbh, Maximum, Minimum, Sum
MTP_MSU_rec_number	ACCUMULATION	INT8	Number of MSUs received over NO.7 interface.	M117440622.S117461614	Sum	hustrafbh, Sum
MTP_MSU_sent_number	ACCUMULATION	INT8	Number of MSUs sent over NO.7 interface.	M117440622.S117461613	Sum	hustrafbh, Sum
MTP_numbers_in_service	INTENSITY	INTEGER	Number of links in service	M117440622.S117461619	Average	Average, hustrafbh, Maximum, Minimum, Sum

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MTP_receive_load_erl	ERLANG	FLOAT	The receiving signalling load over NO.7 interface.	M117440622.S117461618	Average	Average, hustrafbh, Maximum, Minimum, Sum
MTP_send_load_erl	ERLANG	FLOAT	The sending signalling load over NO.7 interface.	M117440622.S117461617	Average	Average, hustrafbh, Maximum, Minimum, Sum
MTP_SIF_and_SIO_OCTETS_rec_number	ACCUMULATION	INT8	Number of SIF and SIO octets received over NO.7 interface.	M117440622.S117461616	Sum	hustrafbh, Sum
MTP_SIF_and_SIO_OCTETS_sent_number	ACCUMULATION	INT8	Number of SIF and SIO octets sent over NO.7 interface.	M117440622.S117461615	Sum	hustrafbh, Sum

7.31.71SGSN.Huawei.GPRS.RANAP

RANAP measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
CN_init_Iu_interface_reset	ACCUMULATION	INTEGER	Measure the number of resets initiated by the CN.	M117440542.S117453616	Sum	hustrafbh, Sum
CN_init_Reset_Resource_request	ACCUMULATION	INTEGER	Total number of RESET RESOURCE messages sent to the RNC.	M117440542.S117453625	Sum	hustrafbh, Sum
CN_init_traffic_control	ACCUMULATION	INTEGER	Measure the number of traffic control times	M117440542.S117453618	Sum	hustrafbh, Sum

			upon overload at CN.			
CN_INVOKE_Traces_sent	ACCUMULATION	INTEGER	Total number of CN INVOKE TRACE messages sent to the RNC.	M117440542.S117453637	Sum	hustrafbh, Sum
Common_ID_sent	ACCUMULATION	INTEGER	Total number of Command ID messages sent to the RNC.	M117440542.S117453636	Sum	hustrafbh, Sum
Error_IND_message_rec	ACCUMULATION	INTEGER	Measure the number of error indication messages received by the Iu interface so as to get the number of messages of both sides that are not in match.	M117440542.S117453615	Sum	hustrafbh, Sum
Error_Indication_sent_by_SGSN	ACCUMULATION	INTEGER	Total number of error indication messages sent to the RNC.	M117440542.S117453620	Sum	hustrafbh, Sum
Inactive_Iu_connection_release	ACCUMULATION	INTEGER	Total number of releasing inactive Iu connections.	M117440542.S117453646	Sum	hustrafbh, Sum
Information_transfer_failure_message_receive	ACCUMULATION	INTEGER	Total number of times the information transfer messages are received from the RNC.	M117440542.S117453648	Sum	hustrafbh, Sum
Information_transfer_message_send	ACCUMULATION	INTEGER	Total number of times that the RNC sends the	M117440542.S117453647	Sum	hustrafbh, Sum

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			information transfer messages.			
Init_UE_Message_rec	ACCUMULATION	INTEGER	Total number of INITIAL UE messages from the RNC.	M117440542.S117453626	Sum	hustrafbh, Sum
Iu_connection_setup_request	ACCUMULATION	INTEGER	Measure the number of requests for connection setup received by the Iu interface.	M117440542.S117453613	Sum	hustrafbh, Sum
Iu_connection_setup_success	ACCUMULATION	INTEGER	Measure the number of successful Iu connection setups.	M117440542.S117453614	Sum	hustrafbh, Sum
MBMS_Session_Start_Failure_received_in_Iu	ACCUMULATION	INTEGER	Total number of MBMS Session Start Failure messages received from the RNC.	M117440542.S117453651	Sum	hustrafbh, Sum
MBMS_Session_Start_Request_sent_in_Iu	ACCUMULATION	INTEGER	Total number of MBMS Session Start Request message sent to the RNC.	M117440542.S117453649	Sum	hustrafbh, Sum
MBMS_Session_Start_Response_received_in_Iu	ACCUMULATION	INTEGER	Total number of MBMS Session Start Response messages received from the RNC.	M117440542.S117453650	Sum	hustrafbh, Sum
MBMS_Session_Stop_Request_sent_in_Iu	ACCUMULATION	INTEGER	Total number of MBMS Session Stop Request message sent to the RNC.	M117440542.S117453652	Sum	hustrafbh, Sum
MBMS_Sessio	ACCUMULA	INTEG	Total number of	M117440542.S11	Sum	hustrafbh

n_Stop_Response_received_in_Iu	TION	ER	MBMS Session Stop Response messages received from the RNC.	7453653		, Sum
Num_of_LOC_related_data_fail_rec_Iu	ACCUMULATION	INTEGER	Total number of Location Related Data Failure messages received from the RNC.	M117440542.S117453645	Sum	hustrafbh, Sum
Num_of_LOC_related_data_req_sent_in_Iu	ACCUMULATION	INTEGER	Total number of Location Related Data Request messages sent to the RNC.	M117440542.S117453643	Sum	hustrafbh, Sum
Num_of_LOC_related_data_rsp_rec_Iu	ACCUMULATION	INTEGER	Total number of Location Related Data Response messages received from the RNC.	M117440542.S117453644	Sum	hustrafbh, Sum
Num_of_RAB_modification_req_rec_Iu	ACCUMULATION	INTEGER	Total number of RAB Modify Request messages received from the RNC.	M117440542.S117453641	Sum	hustrafbh, Sum
Num_of_RAB_release_req_rec_Iu	ACCUMULATION	INTEGER	Total number of RAB Release Request messages received from the RNC.	M117440542.S117453642	Sum	hustrafbh, Sum
Release_Command_sent_success	ACCUMULATION	INTEGER	Total number of IU RELEASE COMMAND messages sent to	M117440542.S117453628	Sum	hustrafbh, Sum

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			the RNC.			
Release_Complete_rec	ACCUMULATION	INTEGER	Total number of IU RELEASE COMPLETE messages received from the RNC.	M117440542.S117453629	Sum	hustrafbh, Sum
Release_Requests_rec	ACCUMULATION	INTEGER	Total number of IU RELEASE REQUEST messages received from the RNC.	M117440542.S117453627	Sum	hustrafbh, Sum
Relocation_Request_ACKs_rec	ACCUMULATION	INTEGER	Total number of Relocation Required messages sent to the RNC.	M117440542.S117453632	Sum	hustrafbh, Sum
Relocation_Request_msg_sent_success	ACCUMULATION	INTEGER	Total number of Relocation request ACK messages received from the RNC.	M117440542.S117453631	Sum	hustrafbh, Sum
Relocation_Required_msg_rec	ACCUMULATION	INTEGER	Total number of Relocation Required messages received from the RNC.	M117440542.S117453630	Sum	hustrafbh, Sum
Reset_Resource_Acks_sent	ACCUMULATION	INTEGER	Total number of RESET RESOURCE ACKNOWLEDGE messages sent to the RNC.	M117440542.S117453624	Sum	hustrafbh, Sum
RNC_init_Iu_interface_reset	ACCUMULATION	INTEGER	Measure the number of RNC-initiated resets received by CN.	M117440542.S117453617	Sum	hustrafbh, Sum
RNC_init_Rese	ACCUMULA	INTEG	Total number of	M117440542.S11	Sum	hustrafbh

t_Resource_request	TION	ER	RESET RESOURCE messages received from the RNC.	7453623		, Sum
RNC_init_traffic_control	ACCUMULATION	INTEGER	Measure the OVERLOAD message received by CN from the RNC.	M117440542.S117453619	Sum	hustrafbh, Sum
Security_Mode_Commands_sent	ACCUMULATION	INTEGER	Total number of Security Mode Command messages sent to the RNC.	M117440542.S117453638	Sum	hustrafbh, Sum
Security_Mode_Completes_rec	ACCUMULATION	INTEGER	Total number of Security Mode Complete messages received from the RNC.	M117440542.S117453639	Sum	hustrafbh, Sum
Security_Mode_Rejects_rec	ACCUMULATION	INTEGER	Total number of Security Mode Reject messages received from the RNC.	M117440542.S117453640	Sum	hustrafbh, Sum
SRNS_Context_Requests_sent	ACCUMULATION	INTEGER	Total number of SRNS Context Request messages sent to the RNC.	M117440542.S117453633	Sum	hustrafbh, Sum
SRNS_Context_Responses_rec	ACCUMULATION	INTEGER	Total number of SRNS Context Response messages received from the RNC.	M117440542.S117453634	Sum	hustrafbh, Sum

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SRNS_Data_Forward_Commands_sent	ACCUMULATION	INTEGER	Total number of SRNS Data Forward Commands sent to the RNC.	M117440542.S117453635	Sum	hustrafbh, Sum
Success_Reset_Acknowledge_rec	ACCUMULATION	INTEGER	Total number of RESET RESPONSE messages received from the RNC.	M117440542.S117453621	Sum	hustrafbh, Sum
Success_Reset_Acknowledge_sent	ACCUMULATION	INTEGER	Total number of RESET RESPONSE messages sent to the RNC.	M117440542.S117453622	Sum	hustrafbh, Sum

7.31.72SGSN.Huawei.GPRS.SCCP_Availability

SCCP Availability measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
Duration_of_local_SCCP_unavail	ACCUMULATION	INTEGER	Total duration of unavailability of the local SCCP.	M117440615.S117460916	Sum	hustrafbh, Sum
Local_SCCP_unavail_caused_by_fault	ACCUMULATION	INTEGER	Number of times local SCCP is unavailable due to fault of the node.	M117440615.S117460913	Sum	hustrafbh, Sum
Local_SCCP_unavail_caused_by_maint	ACCUMULATION	INTEGER	Number of times local SCCP is unavailable due to maintenance.	M117440615.S117460914	Sum	hustrafbh, Sum
Stop_times_of_local_SCCP_unavail	ACCUMULATION	INTEGER	Number of times the local SCCP returns to	M117440615.S117460917	Sum	hustrafbh, Sum

			the available status.			

7.31.73SGSN.Huawei.GPRS.SCCP_Performance

SCCP Performance measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
Parse_error_checked_out	ACCUMULATION	INTEGER	Number of the SCCP route faults due to parse errors in the addressing information.	M117440614.S117460821	Sum	hustrafbh, Sum
Routing_fail_network_congestion	ACCUMULATION	INTEGER	Number of SCCP route faults due to MTP/SCCP congestion.	M117440614.S117460816	Sum	hustrafbh, Sum
Routing_fail_network_fail	ACCUMULATION	INTEGER	Number of SCCP route faults caused by that there is no available route to the destination address.	M117440614.S117460815	Sum	hustrafbh, Sum
Routing_fail_no_matching_for_addr	ACCUMULATION	INTEGER	Number of SCCP route faults caused by that there is no matching address information in the address translation table.	M117440614.S117460814	Sum	hustrafbh, Sum

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Routing_fail_no_transl_for_addr	ACCUMULATION	INTEGER	Number of SCCP route faults caused by that the attribute of a specific address cannot be translated.	M117440614.S117460813	Sum	hustrafbh, Sum
Routing_fail_reason_unknown	ACCUMULATION	INTEGER	Number of SCCP route faults due to other causes.	M117440614.S117460820	Sum	hustrafbh, Sum
Routing_fail_subsystem_fail	ACCUMULATION	INTEGER	Number of SCCP route faults due to failure of the subsystem.	M117440614.S117460817	Sum	hustrafbh, Sum
Routing_fail_unequipment_user	ACCUMULATION	INTEGER	Number of SCCP route faults caused by that the subsystem has not been installed.	M117440614.S117460819	Sum	hustrafbh, Sum

7.31.74SGSN.Huawei.GPRS.SCCP_Utilization

SCCP Utilization measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
Msg_need_global_title_translation	ACCUMULATION	INTEGER	Number of messages that need SCCP to provide the global TITLE translation function.	M117440616.S117461017	Sum	hustrafbh, Sum
Rec_class_0_and_class_1_message	ACCUMULATION	INTEGER	Number of connectionless service	M117440616.S117461022	Sum	hustrafbh, Sum

			messages (class 0 and 1) received by SCCP.			
Rec_class_2_message	ACCUMULATION	INTEGER	Number of connectionless service messages (class 2) received by SCCP.	M117440616.S117461020	Sum	hustrafbh, Sum
Rec_UDTS_message	ACCUMULATION	INTEGER	Number of UDT messages sent from SCCP that cannot reach the destination point.	M117440616.S117461014	Sum	hustrafbh, Sum
Sent_class_0_and_class_1_message	ACCUMULATION	INTEGER	Number of connectionless service messages (class 0 and 1) sent by SCCP.	M117440616.S117461021	Sum	hustrafbh, Sum
Sent_class_2_message	ACCUMULATION	INTEGER	Number of connectionless service messages (class 2) sent by SCCP.	M117440616.S117461019	Sum	hustrafbh, Sum
Sent_UDTS_message	ACCUMULATION	INTEGER	Number of messages returned for the SCCP routing function cannot be used to transmit the connectionless service message.	M117440616.S117461013	Sum	hustrafbh, Sum
Total_msg_ha	ACCUMULA	INTEG	Number of	M117440616.S117	Sum	hustrafbh

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ndled_by_subsys	TION	ER	messages processed by local SCCP.	461015		, Sum
Total_msg_intended_for_local_subsys	ACCUMULATION	INTEGER	Total number of messages with the SCCP local subsystem as the destination address in the message.	M117440616.S117461016	Sum	hustrafbh, Sum

7.31.75SGSN.Huawei.GPRS.SGSN_BSSGP

SGSN BSSGP measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
Att_req_disc_Gb_flw_ctrl	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Number of attach request discarded by BSSGP while Gb signalling flow control	M117440519.S117451339	Sum	hustrafbh, Sum
BSSGP_congestion_PDUs_rec_from_BSS	ACCUMULATION	INTEGER	Number of times BSSGP receives the message of block.	M117440519.S117451322	Sum	hustrafbh, Sum
BSSGP_data_kbytes_rec_from_LLC	ACCUMULATION	INT8	The data bytes received by BSSGP from the LLC layer.	M117440519.S117451335	Sum	hustrafbh, Sum
BSSGP_data_kbytes_rec_from_NS	ACCUMULATION	INT8	Number of data bytes received by BSSGP from the NS layer.	M117440519.S117451331	Sum	hustrafbh, Sum
BSSGP_data_k	ACCUMULA	INT8	Number of data	M117440519.S117	Sum	hustrafbh

bytes_sent_to_LLC	TION		bytes sent from BSSGP to the LLC layer.	451333		, Sum
BSSGP_data_kbytes_sent_to_NS	ACCUMULATION	INT8	Number of data bytes sent from BSSGP to the NS layer.	M117440519.S117451329	Sum	hustrafbh, Sum
BSSGP_data_pkts_rec_from_LLC	ACCUMULATION	INTEGER	Number of data packets received by BSSGP from the LLC layer.	M117440519.S117451334	Sum	hustrafbh, Sum
BSSGP_data_pkts_rec_from_NS	ACCUMULATION	INTEGER	Number of data packets received by BSSGP from the NS layer.	M117440519.S117451330	Sum	hustrafbh, Sum
BSSGP_data_pkts_sent_to_LLC	ACCUMULATION	INTEGER	Number of data packets sent from BSSGP to the LLC layer.	M117440519.S117451332	Sum	hustrafbh, Sum
BSSGP_data_pkts_sent_to_NS	ACCUMULATION	INTEGER	Number of data packets sent from BSSGP to the NS layer.	M117440519.S117451328	Sum	hustrafbh, Sum
BSSGP_DL_data_pkts_dropped_NS_cong	ACCUMULATION	INTEGER	Number of downlink data packets dropped by the BSSGP layer when NS congestion	M117440519.S117451336	Sum	hustrafbh, Sum
BSSGP_DL_data_pkts_dropped	ACCUMULATION	INTEGER	Number of downlink data packets dropped by the BSSGP layer.	M117440519.S117451314	Sum	hustrafbh, Sum

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BSSGP_flowctrl_PDUs_rec_from_BSS	ACCUMULATION	INTEGER	Number of flow control messages received by BSSGP.	M117440519.S117451321	Sum	hustrafbh, Sum
BSSGP_msg_dropped_due_BVC_blocked	ACCUMULATION	INTEGER	Number of messages dropped due to cell blocking.	M117440519.S117451316	Sum	hustrafbh, Sum
BSSGP_msg_dropped_due_to_BVC_reset	ACCUMULATION	INTEGER	Number of messages dropped due to BVC reset.	M117440519.S117451315	Sum	hustrafbh, Sum
BSSGP_receive_MS_flow_control_message	ACCUMULATION	INTEGER	Number of flow control message received MS.	M117440519.S117451327	Sum	hustrafbh, Sum
BSSGP_reset_PDUs_rec_from_BSS	ACCUMULATION	INTEGER	Number of reset messages received by BSSGP.	M117440519.S117451325	Sum	hustrafbh, Sum
BSSGP_reset_PDUs_sent_to_BSS	ACCUMULATION	INTEGER	Number of reset messages sent from BSSGP.	M117440519.S117451324	Sum	hustrafbh, Sum
BSSGP_resume_PDUs_rec_from_BSS	ACCUMULATION	INTEGER	Number of RESUME messages received by BSSGP.	M117440519.S117451320	Sum	hustrafbh, Sum
BSSGP_status_PDUs_rec_from_BSS	ACCUMULATION	INTEGER	Number of STATUS messages received by BSSGP.	M117440519.S117451317	Sum	hustrafbh, Sum
BSSGP_status_PDUs_sent_to_BSS	ACCUMULATION	INTEGER	Number of STATUS messages sent from BSSGP.	M117440519.S117451318	Sum	hustrafbh, Sum
BSSGP_suspend_PDUs_rec_from_BSS	ACCUMULATION	INTEGER	Number of SUSPEND messages	M117440519.S117451319	Sum	hustrafbh, Sum

			received by BSSGP.			
BSSGP_UL_data_pkts_dropped	ACCUMULATION	INTEGER	Number of uplink data packets dropped by the BSSGP layer.	M117440519.S117451313	Sum	hustrafbh, Sum
BSSGP_unblock_PDUs_rec_from_BSS	ACCUMULATION	INTEGER	Number of times BSSGP receives unblocking messages.	M117440519.S117451323	Sum	hustrafbh, Sum
DL_kB_dropped_buffer_ovrflw	ACCUMULATION	INT8	Number of downlink kbytes dropped due to BSSGP buffer overflow	M117440519.S117451337	Sum	hustrafbh, Sum
DL_kB_dropped_max_data_exceed	ACCUMULATION	INT8	Number of downlink kbytes dropped due to BSSGP maximum data amount exceeded.	M117440519.S117451338	Sum	hustrafbh, Sum
Gb_flwctrl_disc_RAUreq_no_PDP	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Number of RAU request without PDP discarded by BSSGP while Gb signalling flow control	M117440519.S117451340	Sum	hustrafbh, Sum
Gb_flwctrl_disc_RAUreq_PDP	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R0	M117440519.S117451341	Sum	hustrafbh, Sum

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			10.C01SPC022: Number of PDP activation discarded by BSSGP while Gb signalling flow control			
Radio_status_msg_rec_from_BSS	ACCUMULATION	INTEGER	Number of radio status messages sent from BSSGP.	M117440519.S117451326	Sum	hustrafbh, Sum

7.31.76SGSN.Huawei.GPRS.SGSN_CDR

SGSN CDR measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
_%_LCS_MO_CDRs_generated_fail	PERCENTAGE	FLOAT	Percentage of LCS-MO-CDRs failed by a specific user.	100 * {LCS_MO_CDRs_generated_fail}/ ({LCS_MO_CDRs_generated} + {LCS_MO_CDRs_generated_fail})	Average	Average, hustrafbh
_%_LCS_MT_CDRs_generated_fail	PERCENTAGE	FLOAT	Percentage of LCS-MT-CDRs failed by a specific user.	100 * {LCS_MT_CDRs_generated_fail}/ ({LCS_MT_CDRs_generated} + {LCS_MT_CDRs_generated_fail})	Average	Average, hustrafbh
_%_LCS_NI_CDRs_generated_fail	PERCENTAGE	FLOAT	Percentage of LCS-NI-CDRs failed by a specific user.	100 * {LCS_NI_CDRs_generated_fail}/ ({LCS_NI_CDRs_generated} + {LCS_NI_CDRs_generated_fail})	Average	Average, hustrafbh
_%_M_CDRs_g	PERCENTAGE	FLOAT	Percentage of M-CDRs failed	100 * {M_CDRs_generat	Average	Average, hustrafbh

enerated_fail			by a specific user.	ed_fail}/ ({M_CDRs_generated} + {M_CDRs_generated_fail})		
_%_S_CDRs_generated_fail	PERCENTAGE	FLOAT	Percentage of S-CDRs failed by a specific user.	100 * {S_CDRs_generated_fail}/ ({S_CDRs_generated} + {S_CDRs_generated_fail})	Average	Average, hustrafbh
_%_S_SMO_CDRs_generated_fail	PERCENTAGE	FLOAT	Percentage of S-SMO-CDRs failed by a specific user.	100 * {S_SMO_CDRs_generated_fail}/ ({S_SMO_CDRs_generated} + {S_SMO_CDRs_generated_fail})	Average	Average, hustrafbh
_%_S_SMT_CDRs_generated_fail	PERCENTAGE	FLOAT	Percentage of S-SMT-CDRs failed by a specific user.	100 * {S_SMT_CDRs_generated_fail}/ ({S_SMT_CDRs_generated} + {S_SMT_CDRs_generated_fail})	Average	Average, hustrafbh
LCS_MO_CDRs_generated_fail	ACCUMULATION	INTEGER	Number of LCS-MO-CDRs failed by a specific user.	M117440512.S117450624	Sum	hustrafbh, Sum
LCS_MO_CDRs_generated	ACCUMULATION	INTEGER	Number of LCS-MO-CDRs generated by a specific user.	M117440512.S117450623	Sum	hustrafbh, Sum
LCS_MT_CDRs_generated_fail	ACCUMULATION	INTEGER	Number of LCS-MT-CDRs failed by a	M117440512.S117450622	Sum	hustrafbh, Sum

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			specific user.			
LCS_MT_CDRs_generated	ACCUMULATION	INTEGER	Number of LCS-MT-CDRs generated by a specific user.	M117440512.S117450621	Sum	hustrafbh, Sum
LCS_NI_CDRs_generated_fail	ACCUMULATION	INTEGER	Number of LCS-NI-CDRs failed by a specific user.	M117440512.S117450626	Sum	hustrafbh, Sum
LCS_NI_CDRs_generated	ACCUMULATION	INTEGER	Number of LCS-NI-CDRs generated by a specific user.	M117440512.S117450625	Sum	hustrafbh, Sum
M_CDRs_generated_fail	ACCUMULATION	INTEGER	Number of M-CDRs failed by a specific user.	M117440512.S117450616	Sum	hustrafbh, Sum
M_CDRs_generated	ACCUMULATION	INTEGER	Number of M-CDRs generated by a specific user.	M117440512.S117450615	Sum	hustrafbh, Sum
S_CDRs_abnormal_released	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Number of S-CDRs abnormal released.	M117440512.S117450631	Sum	hustrafbh, Sum
S_CDRs_closed_all_reason	ACCUMULATION	INTEGER	Number of S-CDRs closed due to all reasons in SGSN.	M117440512.S117450630	Sum	hustrafbh, Sum
S_CDRs_due_to_timelimit	ACCUMULATION	INTEGER	Number of S-CDRs generated due to timelimit in SGSN.	M117440512.S117450628	Sum	hustrafbh, Sum
S_CDRs_due_to_volumelimit	ACCUMULATION	INTEGER	Number of S-CDRs generated due	M117440512.S117450629	Sum	hustrafbh, Sum

			to volumelimit in SGSN.			
S_CDRs_generated_fail	ACCUMULATION	INTEGER	Number of S-CDRs failed by a specific user.	M117440512.S117450614	Sum	hustrafbh, Sum
S_CDRs_generated	ACCUMULATION	INTEGER	Number of S-CDRs generated by a specific user.	M117440512.S117450613	Sum	hustrafbh, Sum
S_CDRs_opened	ACCUMULATION	INTEGER	Number of S-CDRs opened in SGSN.	M117440512.S117450627	Sum	hustrafbh, Sum
S_SMO_CDRs_generated_fail	ACCUMULATION	INTEGER	Number of S-SMO-CDRs failed by a specific user.	M117440512.S117450618	Sum	hustrafbh, Sum
S_SMO_CDRs_generated	ACCUMULATION	INTEGER	Number of S-SMO-CDRs generated by a specific user.	M117440512.S117450617	Sum	hustrafbh, Sum
S_SMT_CDRs_generated_fail	ACCUMULATION	INTEGER	Number of S-SMT-CDRs failed by a specific user.	M117440512.S117450620	Sum	hustrafbh, Sum
S_SMT_CDRs_generated	ACCUMULATION	INTEGER	Number of S-SMT-CDRs generated by a specific user.	M117440512.S117450619	Sum	hustrafbh, Sum

7.31.77SGSN.Huawei.GPRS.SGSN_Compression_Card

SGSN Compression Card measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators

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Data_compression_finished_pkts	ACCUMULATION	INTEGER	Number of downlink data packets compressed successfully by the PMC pinch board.	M117440518.S117451215	Sum	hustrafbh, Sum
Data_compression_pkts	ACCUMULATION	INTEGER	Number of downlink data packets compressed by the PMC pinch board.	M117440518.S117451213	Sum	hustrafbh, Sum
Data_decompression_finished_pkts	ACCUMULATION	INTEGER	Number of uplink data packets decompressed successfully by the PMC pinch board.	M117440518.S117451216	Sum	hustrafbh, Sum
Data_decompression_pkts	ACCUMULATION	INTEGER	Number of uplink data packets decompressed by the PMC pinch board.	M117440518.S117451214	Sum	hustrafbh, Sum

7.31.78SGSN.Huawei.GPRS.SGSN_DNS_Request

SGSN DNS Request measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
Resolving_request_CACHE_hit	ACCUMULATION	INTEGER	Number of successful domain name resolutions via Cache.	M117440531.S117452516	Sum	hustrafbh, Sum
Resolving_request_DNS_Server	ACCUMULATION	INTEGER	Number of resolution requests the	M117440531.S117452517	Sum	hustrafbh, Sum

			SGSN delivers to the DNS server.			
Resolving_request_Hostfile_hit	ACCUMULATION	INTEGER	Number of successful domain name resolutions via Hostfile.	M117440531.S117452515	Sum	hustrafbh, Sum
Resolving_request_result_error	ACCUMULATION	INTEGER	Number of errors in domain name resolution.	M117440531.S117452514	Sum	hustrafbh, Sum
Resolving_request	ACCUMULATION	INTEGER	Number of necessary domain name resolutions.	M117440531.S117452513	Sum	hustrafbh, Sum
Succ_resolv_1_or_more_rec_DNS	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Success resolving request one more records in result from DNS Server	M117440531.S117452519	Sum	hustrafbh, Sum
Success_response_from_DNS_Server	ACCUMULATION	INTEGER	Number of correct responses the SGSN receives from the DNS server.	M117440531.S117452518	Sum	hustrafbh, Sum

7.31.79SGSN.Huawei.GPRS.SGSN_Encryption

SGSN Encryption measurement

KPI	Type	Data	Description	Derivation	Default	Other

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		Type			Aggregator	Aggregators
_%_GEA1_decrypt_requests_failure_rate	INTENSITY	INTEGER	GEA1 decrypt requests failure rate	M117440521.S127938276	Average	Average, hustrafbh, Maximum, Minimum, Sum
_%_GEA1_encrypt_requests_failure_rate	INTENSITY	INTEGER	GEA1 encrypt requests failure rate	M117440521.S127938275	Average	Average, hustrafbh, Maximum, Minimum, Sum
_%_GEA2_decrypt_requests_failure_rate	INTENSITY	INTEGER	GEA2 decrypt requests failure rate	M117440521.S127938278	Average	Average, hustrafbh, Maximum, Minimum, Sum
_%_GEA2_encrypt_requests_failure_rate	INTENSITY	INTEGER	GEA2 encrypt requests failure rate	M117440521.S127938277	Average	Average, hustrafbh, Maximum, Minimum, Sum
Decrypt_finished_pkts	ACCUMULATION	INTEGER	Number of finished data packets of LLC decryption.	M117440521.S117451516	Sum	hustrafbh, Sum
Decrypt_pkts	ACCUMULATION	INTEGER	Number of attempted LLC decrypted data packets.	M117440521.S117451514	Sum	hustrafbh, Sum
Encrypt_finished_pkts	ACCUMULATION	INTEGER	Number of finished data packets of LLC	M117440521.S117451515	Sum	hustrafbh, Sum

			encryption.			
Encrypt_pkts	ACCUMULATION	INTEGER	Number of attempted LLC encrypted data packets.	M117440521.S117451513	Sum	hustrafbh, Sum
GEA1_decrypt_requests_failure_pkts	ACCUMULATION	INTEGER	GEA1 decrypted requests failure packets	M117440521.S117451520	Sum	hustrafbh, Sum
GEA1_decrypt_requests_pkts	ACCUMULATION	INTEGER	GEA1 decrypted requests packets	M117440521.S117451519	Sum	hustrafbh, Sum
GEA1_encrypt_requests_failure_pkts	ACCUMULATION	INTEGER	GEA1 encrypted requests failure packets	M117440521.S117451518	Sum	hustrafbh, Sum
GEA1_encrypt_requests_pkts	ACCUMULATION	INTEGER	GEA1 encrypted requests packets	M117440521.S117451517	Sum	hustrafbh, Sum
GEA2_decrypt_requests_failure_pkts	ACCUMULATION	INTEGER	GEA2 decrypted requests failure packets	M117440521.S117451524	Sum	hustrafbh, Sum
GEA2_decrypt_requests_pkts	ACCUMULATION	INTEGER	GEA2 decrypted requests packets	M117440521.S117451523	Sum	hustrafbh, Sum
GEA2_encrypt_requests_failure_pkts	ACCUMULATION	INTEGER	GEA2 encrypted requests failure packets	M117440521.S117451522	Sum	hustrafbh, Sum
GEA2_encrypt_requests_pkts	ACCUMULATION	INTEGER	GEA2 encrypted requests packets	M117440521.S117451521	Sum	hustrafbh, Sum
GEA3_decrypt_req_failure_pk	ACCUMULATION	INTEGER	Obsolete from CN-	M117440521.S117451528	Sum	hustrafbh, Sum

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ts			SGSN/V900R010.C01SPC022: GEA3 decrypt requests failure packets			
GEA3_decrypt_req_failure_rate	INTENSITY	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: GEA3 decrypt requests failure rate	M117440521.S127938280	Average	Average, hustrafbh, Maximum, Minimum, Sum
GEA3_decrypt_req_pkts	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: GEA3 decrypt requests packets	M117440521.S117451527	Sum	hustrafbh, Sum
GEA3_encrypt_req_failure_pkts	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: GEA3 encrypt requests failure packets	M117440521.S117451526	Sum	hustrafbh, Sum
GEA3_encrypt_req_failure_rate	INTENSITY	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: GEA3 encrypt requests failure rate	M117440521.S127938279	Average	Average, hustrafbh, Maximum, Minimum, Sum
GEA3_encrypt_req_pkts	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: GEA3 encrypt requests packets	M117440521.S117451525	Sum	hustrafbh, Sum

7.31.80SGSN.Huawei.GPRS.SGSN_FR

SGSN FR measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
FR_correct_UL_data_kbytes_rec	ACCUMULATION	INT8	Number of bytes of correct data received by the FR layer from peer end.	M117440517.S117451117	Sum	hustrafbh, Sum
FR_correct_UL_data_pkts_rec	ACCUMULATION	INTEGER	Number of correct data packets received by the FR layer from peer end.	M117440517.S117451116	Sum	hustrafbh, Sum
FR_correct_UL_signalling_kbytes_rec	ACCUMULATION	INT8	Number of bytes of correct signaling received by the FR layer from peer end.	M117440517.S117451120	Sum	hustrafbh, Sum
FR_correct_UL_signalling_pkts_rec	ACCUMULATION	INTEGER	Number of correct signaling frames received by the FR layer from peer end.	M117440517.S117451119	Sum	hustrafbh, Sum
FR_DL_data_kbytes_sent	ACCUMULATION	INT8	Number of data bytes successfully sent by FR.	M117440517.S117451114	Sum	hustrafbh, Sum
FR_DL_data_pkts_dropped	ACCUMULATION	INTEGER	Number of data packets dropped by FR.	M117440517.S117451115	Sum	hustrafbh, Sum
FR_DL_data_pkts_sent	ACCUMULATION	INTEGER	Number of data packets successfully sent by FR.	M117440517.S117451113	Sum	hustrafbh, Sum

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FR_error_UL_data_pkts_rec	ACCUMULATION	INTEGER	Number of error data packets received by the FR layer from peer end.	M117440517.S117451118	Sum	hustrafbh, Sum
FR_error_UL_pkts_rec	ACCUMULATION	INTEGER	Number of signaling and data frames discarded by the FR layer that have been sent from peer end.	M117440517.S117451123	Sum	hustrafbh, Sum
FR_error_UL_signalling_pkts_rec	ACCUMULATION	INTEGER	Number of error signaling frames received by the FR layer from peer end.	M117440517.S117451121	Sum	hustrafbh, Sum
FR_pkts_DL_resent	ACCUMULATION	INTEGER	Number of data packets resent from FR to peer end.	M117440517.S117451124	Sum	hustrafbh, Sum
FR_pkts_dropped_by_FR_when_resent	ACCUMULATION	INTEGER	Number of data packets dropped by FR when resent to peer end.	M117440517.S117451125	Sum	hustrafbh, Sum
FR_UL_pkts_rec	ACCUMULATION	INTEGER	Number of signaling and data frames received by the FR layer from peer end.	M117440517.S117451122	Sum	hustrafbh, Sum

7.31.81SGSN.Huawei.GPRS.SGSN_Gb_Resource

SGSN Gb Resource measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators

Abnormal_cell_number	INTENSITY	INTEGER	Number of cells that can not bear services.	M117440522.S117451617	Average	Average, hustrafbh, Maximum, Minimum, Sum
E1_in_service	INTENSITY	INTEGER	Number of E1s configured by the system for the Gb interface.	M117440522.S117451613	Average	Average, hustrafbh, Maximum, Minimum, Sum
Gb_link_in_service	INTENSITY	INTEGER	Number of NSVCs that can bear services.	M117440522.S117451618	Average	Average, hustrafbh, Maximum, Minimum, Sum
Gb_link_unavailable	INTENSITY	INTEGER	Number of NSVCs that can not bear services.	M117440522.S117451619	Average	Average, hustrafbh, Maximum, Minimum, Sum
Invalid_channel_number	INTENSITY	INTEGER	Number of BCs that can not bear services.	M117440522.S117451615	Average	Average, hustrafbh, Maximum, Minimum, Sum
Normal_cell_number	INTENSITY	INTEGER	Number of cells that can bear services.	M117440522.S117451616	Average	Average, hustrafbh,

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						Maximum, Minimum, Sum
Valid_channel_number	INTENSITY	INTEGER	Number of BCs that can bear services.	M117440522.S117451614	Average	Average, hustrafbh, Maximum, Minimum, Sum

7.31.82SGSN.Huawei.GPRS.SGSN_LLC

SGSN LLC measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
Ack_mode_link_reconstruction_times	ACCUMULATION	INT8	Number of link re-establishments in the acknowledgement mode.	M117440515.S117450915	Sum	hustrafbh, Sum
Data_frames_resent_in_ack_mode	ACCUMULATION	INT8	Number of LLC frames resent in the LLC acknowledgement mode and whether the resending is checked by MS and notified to SGSN (downlink transmission, MS).	M117440515.S117450914	Sum	hustrafbh, Sum
Error_frames_rec_by_LLC	ACCUMULATION	INT8	Number of error frames detected during check of the received LLC frames by SGSN.	M117440515.S117450913	Sum	hustrafbh, Sum

LLC_data_kbytes_rec_from_BSSGP	ACCUMULATION	INT8	Number of data bytes received by LLC from the BSSGP protocol layer.	M117440515.S117450919	Sum	hustrafbh, Sum
LLC_data_kbytes_rec_from_SNDCP	ACCUMULATION	INT8	Number of data bytes received by LLC from the SNDCP protocol layer.	M117440515.S117450927	Sum	hustrafbh, Sum
LLC_data_kbytes_sent_to_BSSGP	ACCUMULATION	INT8	Number of data bytes sent from LLC to the BSSGP protocol layer.	M117440515.S117450917	Sum	hustrafbh, Sum
LLC_data_kbytes_sent_to_SNDCP	ACCUMULATION	INT8	Number of data bytes sent from LLC to the SNDCP protocol layer.	M117440515.S117450925	Sum	hustrafbh, Sum
LLC_data_operated_kbytes	ACCUMULATION	INT8	Number of data bytes operated by LLC layer.	M117440515.S117450944	Sum	hustrafbh, Sum
LLC_data_pkts_BSSGP_and_SNDCP	ACCUMULATION	INT8	Number of data packets sent and received from/by LLC from BSSGP/SNDCP	M117440515.S117450916 + S117450918 + S117450924 + S117450926	Sum	hustrafbh, Sum
LLC_data_pkts_rec_from_BSSGP	ACCUMULATION	INT8	Number of data packets received by LLC from the BSSGP protocol layer.	M117440515.S117450918	Sum	hustrafbh, Sum
LLC_data_pkts_rec_from_SNDCP	ACCUMULATION	INT8	Number of data packets received by LLC from the SNDCP protocol	M117440515.S117450926	Sum	hustrafbh, Sum

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			layer.			
LLC_data_pkts_sent_to_BSSGP	ACCUMULATION	INT8	Number of data packets sent by LLC to the BSSGP protocol layer.	M117440515.S117450916	Sum	hustrafbh, Sum
LLC_data_pkts_sent_to_SNDCP	ACCUMULATION	INT8	Number of data packets sent from LLC to the SNDCP protocol layer.	M117440515.S117450924	Sum	hustrafbh, Sum
LLC_DL_data_pkts_dropped	ACCUMULATION	INT8	Number of downlink data frames dropped by the LLC layer.	M117440515.S117450933	Sum	hustrafbh, Sum
LLC_DL_pkts_dropped_suspend	ACCUMULATION	INT8	LLC downlink data packets dropped due to suspend	M117440515.S117450946	Sum	hustrafbh, Sum
LLC_dl_signalling_pkts_dropped	ACCUMULATION	INT8	Number of downlink signaling packets dropped by the LLC layer.	M117440515.S117450935	Sum	hustrafbh, Sum
LLC_DL_TOM_protocol_env_dropped	ACCUMULATION	INT8	Number of downlink TOM Protocol Envelope messages discarded by the LLC	M117440515.S117450942	Sum	hustrafbh, Sum
LLC_DL_TOM_protocol_env_rec	ACCUMULATION	INT8	Number of LLC-received downlink TOM messages from the BSSAP+	M117440515.S117450940	Sum	hustrafbh, Sum
LLC_DL_TOM_protocol_env_sent	ACCUMULATION	INT8	Number of LLC-sent downlink TOM messages sent to the	M117440515.S117450941	Sum	hustrafbh, Sum

			BSSAP+			
LLC_Gb_mode_attach_request_dropped	ACCUMULATION	INT8	Number of GPRS Attach Requests discarded by the LLC	M117440515.S117450943	Sum	hustrafbh, Sum
LLC_peak_kB_rcvd_BSSGP	INTENSITY	FLOAT	Obsolete from CN-SGSN/V900R010.C01SPC022:LLC peak data kbytes received from BSSGP	M117440515.S117450950	Average	Average, hustrafbh, Maximum, Minimum, Sum
LLC_peak_kB_sent_BSSGP	INTENSITY	FLOAT	Obsolete from CN-SGSN/V900R010.C01SPC022:LLC peak data kbytes sent to BSSGP	M117440515.S117450948	Average	Average, hustrafbh, Maximum, Minimum, Sum
LLC_peak_pkts_rcvd_BSSGP	INTENSITY	FLOAT	Obsolete from CN-SGSN/V900R010.C01SPC022:LLC peak data packets received from BSSGP	M117440515.S117450949	Average	Average, hustrafbh, Maximum, Minimum, Sum
LLC_peak_pkts_sent_BSSGP	INTENSITY	FLOAT	Obsolete from CN-SGSN/V900R010.C01SPC022:LLC peak data packets sent to BSSGP	M117440515.S117450947	Average	Average, hustrafbh, Maximum, Minimum, Sum
LLC_peak_sig_kB_rcvd_BSSGP	INTENSITY	FLOAT	Obsolete from CN-SGSN/V900R010.C01SPC022:L	M117440515.S117450954	Average	Average, hustrafbh, Maximu

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			LC peak signalling kbytes received from BSSGP			m, Minimum, Sum
LLC_peak_sig_kB_sent_BSSGP	INTENSITY	FLOAT	Obsolete from CN-SGSN/V900R010.C01SPC022:LLC peak signalling kbytes sent to BSSGP	M117440515.S117450952	Average	Average, hustrafbh, Maximum, Minimum, Sum
LLC_peak_sig_pkts_rcvd_BSSGP	INTENSITY	FLOAT	Obsolete from CN-SGSN/V900R010.C01SPC022:LLC peak signalling packets received from BSSGP	M117440515.S117450953	Average	Average, hustrafbh, Maximum, Minimum, Sum
LLC_peak_sig_pkts_sent_BSSGP	INTENSITY	FLOAT	Obsolete from CN-SGSN/V900R010.C01SPC022:LLC peak signalling packets sent to BSSGP	M117440515.S117450951	Average	Average, hustrafbh, Maximum, Minimum, Sum
LLC_Peak_Throughput	INTENSITY	FLOAT	Number of data bytes handled by LLC layer.	M117440515.S117450945	Average	Average, hustrafbh, Maximum, Minimum, Sum
LLC_pkts_resent	ACCUMULATION	INT8	Number of LLC packets resent.	M117440515.S117450936	Sum	hustrafbh, Sum
LLC_signalling_kbytes_rec_BSSGP	ACCUMULATION	INT8	Number of bytes of signaling received by LLC from the BSSGP protocol layer.	M117440515.S117450923	Sum	hustrafbh, Sum

LLC_signalling_kbytes_rec_L3MM	ACCUMULATION	INT8	Number of bytes of signaling received by LLC from the GMM layer.	M117440515.S117450931	Sum	hustrafbh, Sum
LLC_signalling_kbytes_sent_to_BSSGP	ACCUMULATION	INT8	Number of bytes of signaling sent from LLC to the BSSGP protocol layer.	M117440515.S117450921	Sum	hustrafbh, Sum
LLC_signalling_kbytes_sent_to_SNDCP	ACCUMULATION	INT8	Number of bytes of signaling sent from LLC to the SNDCP protocol layer.	M117440515.S117450929	Sum	hustrafbh, Sum
LLC_signalling_pkts_rec_from_BSSGP	ACCUMULATION	INT8	Number of signaling packets received by LLC from the BSSGP protocol layer.	M117440515.S117450922	Sum	hustrafbh, Sum
LLC_signalling_pkts_rec_from_L3MM	ACCUMULATION	INT8	Number of signaling frames received by LLC from the GMM layer.	M117440515.S117450930	Sum	hustrafbh, Sum
LLC_signalling_pkts_sent_to_BSSGP	ACCUMULATION	INT8	Number of signaling packets sent from LLC to the BSSGP protocol layer.	M117440515.S117450920	Sum	hustrafbh, Sum
LLC_signalling_pkts_sent_to_SNDCP	ACCUMULATION	INT8	Number of signaling packets sent from LLC to the SNDCP protocol layer.	M117440515.S117450928	Sum	hustrafbh, Sum
LLC_TOM_protocol_envelopes	ACCUMULATION	INT8	Number of uplink TOM	M117440515.S117450938	Sum	hustrafbh, Sum

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_sent_to_BSSAP			Protocol Envelope messages sent from the LLC to BSSAP+			
LLC_UL_data_pkts_dropped	ACCUMULATION	INT8	Number of uplink data frames dropped by the LLC layer.	M117440515.S117450932	Sum	hustrafbh, Sum
LLC_UL_signalling_pkts_dropped	ACCUMULATION	INT8	Number of uplink signaling packets dropped by the LLC layer.	M117440515.S117450934	Sum	hustrafbh, Sum
LLC_UL_TOM_protocol_env_dropped	ACCUMULATION	INT8	Number of uplink TOM Protocol Envelope messages discarded by the LLC	M117440515.S117450939	Sum	hustrafbh, Sum
LLC_UL_TOM_protocol_envelopes_rec	ACCUMULATION	INT8	Number of uplink TOM Protocol Envelope messages received by the LLC	M117440515.S117450937	Sum	hustrafbh, Sum

7.31.83SGSN.Huawei.GPRS.SGSN_NS

SGSN NS measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
NS_block_ack_msg_rec_from_BSS	ACCUMULATION	INTEGER	Number of BLOCK ACK messages received from BSS.	M117440520.S117451426	Sum	hustrafbh, Sum

NS_block_ack_msg_sent_to_BSS	ACCUMULATION	INTEGER	Number of BLOCK ACK messages sent to BSS.	M117440520.S117451425	Sum	hustrafbh, Sum
NS_block_msg_rec_from_BSS	ACCUMULATION	INTEGER	Number of BLOCK messages received from BSS.	M117440520.S117451424	Sum	hustrafbh, Sum
NS_block_msg_sent_to_BSS	ACCUMULATION	INTEGER	Number of BLOCK messages sent to BSS.	M117440520.S117451423	Sum	hustrafbh, Sum
NS_DL_data_pkts_discarded	ACCUMULATION	INTEGER	Number of downlink data packets dropped by the NS sublayer.	M117440520.S117451421	Sum	hustrafbh, Sum
NS_kbytes_between_NS_and_FR	ACCUMULATION	INT8	Total throughput received from the FR layer and sent to FR layer by the NS layer.	M117440520.S117451446	Sum	hustrafbh, Sum
NS_kbytes_rec_from_BSSGP	ACCUMULATION	INT8	Total number of bytes received by the NS layer from the BSSGP layer.	M117440520.S117451414	Sum	hustrafbh, Sum
NS_kbytes_rec_from_FR	ACCUMULATION	INT8	Total number of bytes received by the NS layer from the FR layer.	M117440520.S117451418	Sum	hustrafbh, Sum
NS_kbytes_sent_to_BSSGP	ACCUMULATION	INT8	Total number of bytes sent from	M117440520.S117451420	Sum	hustrafbh, Sum

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			the NS layer to the BSSGP layer.			
NS_kbytes_sent_to_FR	ACCUMULATION	INT8	Total number of bytes sent from the NS to the FR layer.	M117440520.S117451416	Sum	hustrafbh, Sum
NS_mean_kbytes_between_NS_and_FR	INTENSITY	FLOAT	Arithmetic mean throughput of Kbytes received from FR layer and sent to FR layer by NS layer per second.	M117440520.S117451444	Average	Average, hustrafbh, Maximum, Minimum, Sum
NS_mean_kbytes_received_from_FR	INTENSITY	FLOAT	Arithmetic mean throughput of Kbytes received from FR layer by NS layer per second.	M117440520.S117451436	Average	Average, hustrafbh, Maximum, Minimum, Sum
NS_mean_kbytes_sent_to_FR	INTENSITY	FLOAT	Arithmetic mean throughput of Kbytes sent to FR layer by NS layer per second.	M117440520.S117451438	Average	Average, hustrafbh, Maximum, Minimum, Sum
NS_mean_packets_between_NS_and_FR	INTENSITY	FLOAT	Arithmetic mean throughput of packets received from FR layer and sent to FR layer by NS layer per second.	M117440520.S117451443	Average	Average, hustrafbh, Maximum, Minimum, Sum
NS_mean_packets_received_from_FR	INTENSITY	FLOAT	Arithmetic mean number of packets	M117440520.S117451435	Average	Average, hustrafbh,

			recieved from FR layer by NS layer per second.			Maximum, Minimum, Sum
NS_mean_packets_sent_to_FR	INTENSITY	FLOAT	Arithmetic mean number of packets per sencond sent to FR layer.	M117440520.S117451437	Average	Average, hustrafbh, Maximum, Minimum, Sum
NS_packets_between_NS_and_FR	ACCUMULATION	INT8	Total number of packets received from the FR layer and sent to FR layer by the NS layer.	M117440520.S117451445	Sum	hustrafbh, Sum
NS_peak_kbytes_between_NS_and_FR	INTENSITY	INT8	Peak throughput of packets sent to FR layer and received from FR layer by NS layer per second.	M117440520.S117451448	Average	Average, hustrafbh, Maximum, Minimum, Sum
NS_peak_kbytes_received_from_FR	INTENSITY	INT8	peak number of Kbytes received from FR layer by NS layer per second.	M117440520.S117451440	Average	Average, hustrafbh, Maximum, Minimum, Sum
NS_peak_kbytes_sent_to_FR	INTENSITY	INT8	Peak throughput of Kbytes sent to FR layer by NS layer per	M117440520.S117451442	Average	Average, hustrafbh, Maximum,

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			second.			Minimum, Sum
NS_peak_packets_between_NS_and_FR	INTENSITY	INT8	Peak number of packets sent to FR layer and received from FR layer by NS layer per second.	M117440520.S117451447	Average	Average, hustrafbh, Maximum, Minimum, Sum
NS_peak_packets_received_from_FR	INTENSITY	INT8	Peak number of packets received from FR layer by NS layer per second.	M117440520.S117451439	Average	Average, hustrafbh, Maximum, Minimum, Sum
NS_peak_packets_sent_to_FR	INTENSITY	INT8	Peak throughput of packets sent to FR layer by NS layer per second.	M117440520.S117451441	Average	Average, hustrafbh, Maximum, Minimum, Sum
NS_pkts_rec_from_BSSGP	ACCUMULATION	INTEGER	Total number of packets received by the NS layer from the BSSGP layer.	M117440520.S117451413	Sum	hustrafbh, Sum
NS_pkts_rec_from_FR	ACCUMULATION	INTEGER	Total number of packets received by the NS layer from the FR layer.	M117440520.S117451417	Sum	hustrafbh, Sum
NS_pkts_sent_to_BSSGP	ACCUMULATION	INTEGER	Total number of packets sent from the NS layer to the BSSGP layer.	M117440520.S117451419	Sum	hustrafbh, Sum
NS_pkts_sent_to_FR	ACCUMULATION	INTEGER	Total number of packets sent	M117440520.S117451415	Sum	hustrafbh, Sum

			from the NS layer to the FR layer.			
NS_reset_ack_msg_rec_from_BSS	ACCUMULATION	INTEGER	Number of RESET ACK messages received from BSS.	M117440520.S117451434	Sum	hustrafbh, Sum
NS_reset_ack_msg_sent_to_BSS	ACCUMULATION	INTEGER	Number of RESET ACK messages sent to BSS.	M117440520.S117451433	Sum	hustrafbh, Sum
NS_reset_msg_rec_from_BSS	ACCUMULATION	INTEGER	Number of RESET messages received from BSS.	M117440520.S117451432	Sum	hustrafbh, Sum
NS_reset_msg_sent_to_BSS	ACCUMULATION	INTEGER	Number of RESET messages sent to BSS.	M117440520.S117451431	Sum	hustrafbh, Sum
NS_UL_data_pkts_discarded	ACCUMULATION	INTEGER	Number of uplink data packets dropped by the NS sublayer.	M117440520.S117451422	Sum	hustrafbh, Sum
NS_unblock_ack_msg_rec_from_BSS	ACCUMULATION	INTEGER	Number of UNBLOCK ACK messages received from BSS.	M117440520.S117451430	Sum	hustrafbh, Sum
NS_unblock_ack_msg_sent_to_BSS	ACCUMULATION	INTEGER	Number of UNBLOCK ACK messages sent to BSS.	M117440520.S117451429	Sum	hustrafbh, Sum
NS_unblock_	ACCUMULA	INTEG	Number of	M117440520.S117	Sum	hustrafbh

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msg_rec_from_BSS	TION	ER	UNBLOCK messages received from BSS.	451428		, Sum
NS_unblock_msg_sent_to_BSS	ACCUMULATION	INTEGER	Number of UNBLOCK messages sent to BSS.	M117440520.S117451427	Sum	hustrafbh, Sum

7.31.84SGSN.Huawei.GPRS.SGSN_Relocation

SGSN Relocation measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
_%_Inter_SGSN_hard_handover_suc	PERCENTAGE	FLOAT	Percentage of successful inter-SGSN hard handovers.	100 * {Inter_SGSN_hard_handover_suc}/ {Inter_SGSN_hard_handover_req}	Average	Average, hustrafbh
_%_Inter_SGSN_soft_handover_suc	PERCENTAGE	FLOAT	Percentage of successful inter-SGSN software handovers.	100 * {Inter_SGSN_soft_handover_suc}/ {Inter_SGSN_soft_handover_req}	Average	Average, hustrafbh
_%_Intra_SGSN_hard_handover_suc	PERCENTAGE	FLOAT	Percentage of successful intra-SGSN hard handovers.	100 * {Intra_SGSN_hard_handover_suc}/ {Intra_SGSN_hard_handover_req}	Average	Average, hustrafbh
_%_Intra_SGSN_soft_handover_suc	PERCENTAGE	FLOAT	Percentage of successful intra-SGSN soft handovers.	100 * {Intra_SGSN_soft_handover_suc}/ {Intra_SGSN_soft_handover_req}	Average	Average, hustrafbh
Inter_SGSN_hard_handover_req	ACCUMULATION	INTEGER	Number of SGSN-received inter-SGSN hard handover requests.	M117440581.S117457515	Sum	hustrafbh, Sum

Inter_SGSN_hard_handover_suc	ACCUMULATION	INTEGER	Number of successful inter-SGSN hard handovers.	M117440581.S117457516	Sum	hustrafbh, Sum
Inter_SGSN_soft_handover_req	ACCUMULATION	INTEGER	Number of times SGSN receives inter-SGSN soft handover requests.	M117440581.S117457513	Sum	hustrafbh, Sum
Inter_SGSN_soft_handover_suc	ACCUMULATION	INTEGER	Number of successful inter-SGSN software handovers.	M117440581.S117457514	Sum	hustrafbh, Sum
InterReloc_attempt_at_target_SGSN	ACCUMULATION	INTEGER	Number of inter-SGSN relocation requests in target SGSN.	M117440581.S117457523	Sum	hustrafbh, Sum
InterReloc_Prep_suc_at_source_SGSN	ACCUMULATION	INTEGER	Number of successful inter-SGSN relocation preparation process in source SGSN.	M117440581.S117457521	Sum	hustrafbh, Sum
InterReloc_suc_at_target_SGSN	ACCUMULATION	INTEGER	Number of successful inter-SGSN relocation complete process in target SGSN.	M117440581.S117457522	Sum	hustrafbh, Sum
Intra_Reloc_Prep_suc_at_source_SGSN	ACCUMULATION	INTEGER	Number of successful intra-SGSN relocation	M117440581.S117457524	Sum	hustrafbh, Sum

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			preparation process in source SGSN.			
Intra_SGSN_hard_handover_req	ACCUMULATION	INTEGER	Number of times SGSN receives the intra-SGSN hard handover request.	M117440581.S117457519	Sum	hustrafbh, Sum
Intra_SGSN_hard_handover_suc	ACCUMULATION	INTEGER	Number of successful intra-SGSN hard handovers.	M117440581.S117457520	Sum	hustrafbh, Sum
Intra_SGSN_soft_handover_req	ACCUMULATION	INTEGER	Number of times SGSN receives intra-SGSN soft handover request.	M117440581.S117457517	Sum	hustrafbh, Sum
Intra_SGSN_soft_handover_suc	ACCUMULATION	INTEGER	Number of successful intra-SGSN soft handovers.	M117440581.S117457518	Sum	hustrafbh, Sum

7.31.85SGSN.Huawei.GPRS.SGSN_SNDCP

SGSN SNDCP measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
Avg_PDP_context_usg_data_compr	INTENSITY	INTEGER	Number of data compression entities used by MS at the end of the measurement period.	M117440516.S117451014	Average	Average, hustrafbh, Maximum, Minimum, Sum
Avg_PDP_context_usg_protocol_compr	INTENSITY	INTEGER	Number of protocol compression entities used by	M117440516.S117451013	Average	Average, hustrafbh, Maximu

			MS at the end of the measurement period.			m, Minimum, Sum
N_PDU_bytes_discarded	ACCUMULATION	INT8	Number of bytes of N-PDU discarded by the SNDCP layer.	M117440516.S117451016	Sum	hustrafbh, Sum
N_PDU_pkts_discarded	ACCUMULATION	INTEGER	Number of N-PDU packets dropped by the SNDCP layer.	M117440516.S117451015	Sum	hustrafbh, Sum
SNDCP_data_kbytes_rec_from_GTP	ACCUMULATION	INT8	Number of data bytes received by the SNDCP layer from the GTP layer.	M117440516.S117451020	Sum	hustrafbh, Sum
SNDCP_data_kbytes_rec_from_LLC	ACCUMULATION	INT8	Number of data bytes received by the SNDCP layer from the LLC layer.	M117440516.S117451024	Sum	hustrafbh, Sum
SNDCP_data_kbytes_sent_to_GTP	ACCUMULATION	INT8	Number of data bytes sent from the SNDCP layer to the GTP layer.	M117440516.S117451018	Sum	hustrafbh, Sum
SNDCP_data_kbytes_sent_to_LLC	ACCUMULATION	INT8	Number of data bytes sent from the SNDCP layer to the LLC layer.	M117440516.S117451022	Sum	hustrafbh, Sum
SNDCP_data_pkts_rec_from_GTP	ACCUMULATION	INTEGER	Number of data frames received by the SNDCP layer from the GTP layer.	M117440516.S117451019	Sum	hustrafbh, Sum

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SNDCP_data_pkts_rec_from_LLC	ACCUMULATION	INTEGER	Number of data frames received by the SNDCP layer from the LLC layer.	M117440516.S117451023	Sum	hustrafbh, Sum
SNDCP_data_pkts_sent_to_GTP	ACCUMULATION	INTEGER	Number of data frames sent from the SNDCP layer to the GTP layer.	M117440516.S117451017	Sum	hustrafbh, Sum
SNDCP_data_pkts_sent_to_LLC	ACCUMULATION	INTEGER	Number of data frames sent from the SNDCP layer to the LLC layer.	M117440516.S117451021	Sum	hustrafbh, Sum
SNDCP_dl_data_pkts_dropped_flowctrl	ACCUMULATION	INTEGER	Number of data frames dropped by SNDCP at the downlink direction when flow control	M117440516.S117451027	Sum	hustrafbh, Sum
SNDCP_DL_data_pkts_dropped	ACCUMULATION	INTEGER	Number of data frames dropped by SNDCP at the downlink direction.	M117440516.S117451026	Sum	hustrafbh, Sum
SNDCP_UL_data_pkts_dropped	ACCUMULATION	INTEGER	Number of data frames dropped by SNDCP at the uplink direction.	M117440516.S117451025	Sum	hustrafbh, Sum

7.31.86SGSN.Huawei.GPRS.SMS_in_Gb

SMS send and receive in Gb Mode.

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
Confirmations_of_SM_Alert_due_to_MS_pres	ACCUMULATION	INTEGER	Number of successful responses	M117440630.S117462469	Sum	hustrafbh, Sum

ent			received from the HLR in Gb mode when the MS becomes reachable and initiates an SM Alert.			
Confirmations_of_SM_Alert_due_to_MS	ACCUMULATION	INTEGER	Number of successful responses received from the HLR in Gb mode if the MS has memory available and initiates the SM Alert.	M117440630.S117462470	Sum	hustrafbh, Sum
MS_originated_SM_fail_MO_service_limitation	ACCUMULATION	INTEGER	Number of failed transmissions of short messages initiated by MS in Gb mode due to MO service restriction.	M117440630.S117462449	Sum	hustrafbh, Sum
MS_originated_SM_fail_not_supported_by_device	ACCUMULATION	INTEGER	Number of failures of the short message service in Gb mode when SMC-IWMSC returns the message that the device does not support the short message after MS has initiated it.	M117440630.S117462451	Sum	hustrafbh, Sum

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MS_originated_SM_fail_protocol_data_error	ACCUMULATION	INTEGER	Number of failures of the short message service in Gb mode when SMC-IWMSC returns the message of protocol data error after MS has initiated the short message.	M117440630.S117462454	Sum	hustrafbh, Sum
MS_originated_SM_fail_SM_delivery_fault	ACCUMULATION	INTEGER	Number of failures of the short message service in Gb mode when SMC-IWMSC returns the short message delivery failure message after MS has initiated the short message.	M117440630.S117462453	Sum	hustrafbh, Sum
MS_originated_SM_fail_system_fault	ACCUMULATION	INTEGER	Number of failures of the short message service in Gb mode when SMC-IWMSC returns the system fault message after MS has initiated the short message.	M117440630.S117462452	Sum	hustrafbh, Sum
MS_originated_SM_fail_unknown_MS	ACCUMULATION	INTEGER	Number of failed transmissions of short messages initiated by MS in Gb mode due	M117440630.S117462450	Sum	hustrafbh, Sum

			to user unknown in SGSN.			
MS_originated_SMS_fail_authentication_fail	ACCUMULATION	INTEGER	Number of failed transmissions of short messages initiated by MS in Gb mode due to authentication failure.	M117440630.S117462447	Sum	hustrafbh, Sum
MS_originated_SMS_fail_ciphering_setting_fail	ACCUMULATION	INTEGER	Number of failed transmissions of short messages initiated by MS in Gb mode due to failure in setting the encryption mode.	M117440630.S117462448	Sum	hustrafbh, Sum
MS_originated_SMS_received	ACCUMULATION	INTEGER	Number received of MS in initiating the short message in Gb mode.	M117440630.S117462445	Sum	hustrafbh, Sum
MS_originated_SMS_successes	ACCUMULATION	INTEGER	Number of successful transmissions of short messages initiated by MS in Gb mode.	M117440630.S117462446	Sum	hustrafbh, Sum
MS_received_SM_fail_illegal_u	ACCUMULATION	INTEGER	Number of failures of the	M117440630.S117462463	Sum	hustrafbh, Sum

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ser			mobile terminating short message in Gb mode due to user illegal during the process when SGSN sends short messages to MS.			
MS_received_SM_fail_memory_fail	ACCUMULATION	INTEGER	Number of failures of the mobile terminating short message in Gb mode due to memory failure during the process when SGSN sends short messages to MS.	M117440630.S117462466	Sum	hustrafbh, Sum
MS_received_SM_fail_not_supported_by_device	ACCUMULATION	INTEGER	Number of failures of the mobile terminating short message in Gb mode for the device does not support the short message during the process when SGSN sends short messages to MS.	M117440630.S117462462	Sum	hustrafbh, Sum
MS_received_SM_fail_protocol_fail	ACCUMULATION	INTEGER	Number of failures of the mobile terminating short message in Gb mode due to protocol	M117440630.S117462498	Sum	hustrafbh, Sum

			error failure during the process when SGSN sends short messages to MS.			
MS_received_SM_fail_SM_delivery_fail	ACCUMULATION	INTEGER	Number of failures of the mobile terminating short message in Gb mode due to SM delivery failure during the process when SGSN sends short messages to MS.	M117440630.S117462465	Sum	hustrafbh, Sum
MS_received_SM_fail_system_fault	ACCUMULATION	INTEGER	Number of failures of the mobile terminating short message in Gb mode due to system fault during the process when SGSN sends short messages to MS.	M117440630.S117462464	Sum	hustrafbh, Sum
MS_received_SM_fail_unidentified_user	ACCUMULATION	INTEGER	Number of failures of the mobile terminating short message in Gb mode due to user unidentified during the	M117440630.S117462459	Sum	hustrafbh, Sum

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			process when SGSN sends short messages to MS.			
MS_received_SM_fail_user_busy	ACCUMULATION	INTEGER	Number of failures of the mobile terminating short message in Gb mode due to user busy during the process when SGSN sends short messages to MS.	M117440630.S117462461	Sum	hustrafbh, Sum
MS_received_SM_fail_user_unattached	ACCUMULATION	INTEGER	Number of failures of the mobile terminating short message in Gb mode due to user unattached during the process when SGSN sends short messages to MS.	M117440630.S117462460	Sum	hustrafbh, Sum
MS_received_SM_received	ACCUMULATION	INTEGER	Number of times SGSN received short messages from SM-SC in Gb mode .	M117440630.S117462457	Sum	hustrafbh, Sum
MS_received_SM_successes	ACCUMULATION	INTEGER	Number of times SGSN succeeds in sending short messages to MS in Gb mode .	M117440630.S117462458	Sum	hustrafbh, Sum
Notifications_of_MS_memory_a	ACCUMULATION	INTEGER	Number of notifications	M117440630.S117462468	Sum	hustrafbh, Sum

vailable_for_SM_receiving			sent by SGSN to HLR to initiate MT SMS procedure in Gb mode because a subscriber indicates memory available.			
Notifications_of_MS_present_and_SM_receiving_ready	ACCUMULATION	INTEGER	Number of notifications sent by SGSN to HLR to initiate MT SMS procedure in Gb mode due to MS re-presence.	M117440630.S117462467	Sum	hustrafbh, Sum
SMMO_fail_ODB	ACCUMULATION	INTEGER	Number of failures of the MO short message service for ODB in Gb mode.	M117440630.S117462455	Sum	hustrafbh, Sum
SMMO_fail_protocol_error	ACCUMULATION	INTEGER	Number of failures of the MO short message service for protocol error in Gb mode .	M117440630.S117462456	Sum	hustrafbh, Sum

7.31.87SGSN.Huawei.GPRS.SMS_in_Iu

SMS send and receive in Iu Mode.

KPI	Type	Data Type	Description	Derivation	Default Aggrega	Other Aggrega

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					tor	tors
Confirmations_of_SM_Alert_due_to_MS_present	ACCUMULATION	INTEGER	Number of successful responses received from the HLR in Iu mode when the MS becomes reachable and initiates an SM Alert.	M117440630.S117462495	Sum	hustrafbh, Sum
Confirmations_of_SM_Alert_due_to_MS	ACCUMULATION	INTEGER	Number of successful responses received from the HLR in Iu mode if the MS has memory available and initiates the SM Alert.	M117440630.S117462496	Sum	hustrafbh, Sum
MS_originated_SM_fail_MO_service_limitation	ACCUMULATION	INTEGER	Number of failed transmissions of short messages initiated by MS in Iu mode due to MO service restriction.	M117440630.S117462475	Sum	hustrafbh, Sum
MS_originated_SM_fail_not_supported_by_device	ACCUMULATION	INTEGER	Number of failures of the short message service in Iu mode when SMC-IWMSC returns the message that the device does not support the short message after MS has initiated it.	M117440630.S117462477	Sum	hustrafbh, Sum

MS_originated_SM_fail_protocol_data_error	ACCUMULATION	INTEGER	Number of failures of the short message service in Iu mode when SMC-IWMSC returns the message of protocol data error after MS has initiated the short message.	M117440630.S117462480	Sum	hustrafbh, Sum
MS_originated_SM_fail_SM_delivery_fault	ACCUMULATION	INTEGER	Number of failures of the short message service in Iu mode when SMC-IWMSC returns the short message delivery failure message after MS has initiated the short message.	M117440630.S117462479	Sum	hustrafbh, Sum
MS_originated_SM_fail_system_fault	ACCUMULATION	INTEGER	Number of failures of the short message service in Iu mode when SMC-IWMSC returns the system fault message after MS has initiated the short message.	M117440630.S117462478	Sum	hustrafbh, Sum
MS_originated_SM_fail_unknown_MS	ACCUMULATION	INTEGER	Number of failed transmissions	M117440630.S117462476	Sum	hustrafbh, Sum

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			of short messages initiated by MS in Iu mode due to user unknown in SGSN.			
MS_originated_SMS_fail_authentication_fail	ACCUMULATION	INTEGER	Number of failed transmissions of short messages initiated by MS in Iu mode due to authentication failure.	M117440630.S117462473	Sum	hustrafbh, Sum
MS_originated_SMS_fail_ciphering_setting_fail	ACCUMULATION	INTEGER	Number of failed transmissions of short messages initiated by MS in Iu mode due to failure in setting the encryption mode.	M117440630.S117462474	Sum	hustrafbh, Sum
MS_originated_SMS_received	ACCUMULATION	INTEGER	Number received of MS in initiating the short message in Iu mode .	M117440630.S117462471	Sum	hustrafbh, Sum
MS_originated_SMS_successes	ACCUMULATION	INTEGER	Number of successful transmissions of short messages initiated by MS in Iu mode .	M117440630.S117462472	Sum	hustrafbh, Sum
MS_received_SM_fail_illegal_user	ACCUMULATION	INTEGER	Number of failures of the mobile	M117440630.S117462489	Sum	hustrafbh, Sum

			terminating short message in Iu mode due to user illegal during the process when SGSN sends short messages to MS.			
MS_received_SM_fail_memory_fail	ACCUMULATION	INTEGER	Number of failures of the mobile terminating short message in Iu mode due to memory failure during the process when SGSN sends short messages to MS.	M117440630.S117462492	Sum	hustrafbh, Sum
MS_received_SM_fail_not_supported_by_device	ACCUMULATION	INTEGER	Number of failures of the mobile terminating short message in Iu mode for the device does not support the short message during the process when SGSN sends short messages to MS.	M117440630.S117462488	Sum	hustrafbh, Sum
MS_received_SM_fail_protocol_fail	ACCUMULATION	INTEGER	Number of failures of the mobile terminating	M117440630.S117462499	Sum	hustrafbh, Sum

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			short message in Iu mode due to protocol error failure during the process when SGSN sends short messages to MS.			
MS_received_SM_fail_SM_delivery_fail	ACCUMULATION	INTEGER	Number of failures of the mobile terminating short message in Iu mode due to SM delivery failure during the process when SGSN sends short messages to MS.	M117440630.S117462491	Sum	hustrafbh, Sum
MS_received_SM_fail_system_fault	ACCUMULATION	INTEGER	Number of failures of the mobile terminating short message in Iu mode due to system fault during the process when SGSN sends short messages to MS.	M117440630.S117462490	Sum	hustrafbh, Sum
MS_received_SM_fail_unidentified_user	ACCUMULATION	INTEGER	Number of failures of the mobile terminating short message in Iu mode due to user unidentified during the process when	M117440630.S117462485	Sum	hustrafbh, Sum

			SGSN sends short messages to MS.			
MS_received_SM_fail_user_busy	ACCUMULATION	INTEGER	Number of failures of the mobile terminating short message in Iu mode due to user busy during the process when SGSN sends short messages to MS.	M117440630.S117462487	Sum	hustrafbh, Sum
MS_received_SM_fail_user_unattached	ACCUMULATION	INTEGER	Number of failures of the mobile terminating short message in Iu mode due to user unattached during the process when SGSN sends short messages to MS.	M117440630.S117462486	Sum	hustrafbh, Sum
MS_received_SM_received	ACCUMULATION	INTEGER	Number of times SGSN received the short messages from SM-SC in Iu mode.	M117440630.S117462483	Sum	hustrafbh, Sum
MS_received_SM_successes	ACCUMULATION	INTEGER	Number of times SGSN succeeds in sending short messages to MS	M117440630.S117462484	Sum	hustrafbh, Sum

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			in Iu mode .			
Notifications_of_MS_memory_available_for_SM_receiving	ACCUMULATION	INTEGER	Number of notifications sent by SGSN to HLR to initiate MT SMS procedure in Iu mode because a subscriber indicates memory available.	M117440630.S117462494	Sum	hustrafbh, Sum
Notifications_of_MS_present_and_SM_receiving_ready	ACCUMULATION	INTEGER	Number of notifications sent by SGSN to HLR to initiate MT SMS procedure in Iu mode due to MS re-presence.	M117440630.S117462493	Sum	hustrafbh, Sum
SMMO_fail_ODB	ACCUMULATION	INTEGER	Number of failures of the MO short message service for ODB in Iu mode .	M117440630.S117462481	Sum	hustrafbh, Sum
SMMO_fail_protocol_error	ACCUMULATION	INTEGER	Number of failures of the MO short message service for protocol error in Iu mode .	M117440630.S117462482	Sum	hustrafbh, Sum

7.31.88SGSN.Huawei.GPRS.SMS

SMS measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators

_%_CAMEL_user_success_in_SM_origin	PERCENTAGE	FLOAT	Percentage of successful transmissions of short messages initiated by CAMEL MS.	100 * {CAMEL_user_success_in_SM_origin}/ {CAMEL_user_requests_for_SM_origin}	Average	Average, hustrafbh
_%_MS_originated_SMS_successes	PERCENTAGE	FLOAT	Percentage of successful transmissions of short messages initiated by MS.	100 * {MS_originated_SMS_successes}/ {MS_originated_SMS_attempts}	Average	Average, hustrafbh
_%_MS_rec_SM_successes	PERCENTAGE	FLOAT	Percentage of times SGSN succeeds in sending short messages to MS.	100 * {MS_rec_SM_successes}/ {MS_rec_SM_attempts}	Average	Average, hustrafbh
CAMEL_user_requests_for_SM_origin	ACCUMULATION	INTEGER	Number attempts of CAMEL MS in initiating the short message.	M117440630.S117462437	Sum	hustrafbh, Sum
CAMEL_user_success_in_SM_origin	ACCUMULATION	INTEGER	Number of successful transmissions of short messages initiated by CAMEL MS.	M117440630.S117462438	Sum	hustrafbh, Sum
Confirm_SM_Alert_due_MS_mem_avail	ACCUMULATION	INTEGER	Number of successful notifications sent by the SGSN to the HLR to initiate MT SMS	M117440630.S117462444	Sum	hustrafbh, Sum

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			procedure due to the available MS memory.			
Confirm_SM_Alert_due_MS_presentt	ACCUMULATION	INTEGER	Number of successful notifications sent by the SGSN to the HLR to initiate MT SMS procedure due to the MS re-prensence.	M117440630.S117462443	Sum	hustrafbh, Sum
L3_SMS_signalling_amount_rec	ACCUMULATION	INTEGER	Number of mobile radio interface signalling layer 3 Messages supporting SMS services received by SGSN.	M117440630.S117462435	Sum	hustrafbh, Sum
L3_SMS_signalling_amount_sent	ACCUMULATION	INTEGER	Number of mobile radio interface signalling layer 3 Messages supporting SMS services sent to MS.	M117440630.S117462436	Sum	hustrafbh, Sum
MS_originated_SM_fail_MO_service_limitation	ACCUMULATION	INTEGER	Number of failed transmissions of short messages initiated by MS due to MO service restriction.	M117440630.S117462417	Sum	hustrafbh, Sum
MS_originated_SM_fail_not_supported_by_device	ACCUMULATION	INTEGER	Number of failures of the short message service when	M117440630.S117462419	Sum	hustrafbh, Sum

			SMC-IWMSC returns the message that the device does not support the short message after MS has initiated it.			
MS_originated_SM_fail_protocol_err	ACCUMULATION	INTEGER	Number of failures of the short message service when SMC-IWMSC returns the message of protocol data error after MS has initiated the short message.	M117440630.S117462422	Sum	hustrafbh, Sum
MS_originated_SM_fail_SM_dlvr_fault	ACCUMULATION	INTEGER	Number of failures of the short message service when SMC-IWMSC returns the short message delivery failure message after MS has initiated the short message.	M117440630.S117462421	Sum	hustrafbh, Sum
MS_originated_SM_fail_system_fault	ACCUMULATION	INTEGER	Number of failures of the short message service when SMC-IWMSC returns the system fault message after MS has	M117440630.S117462420	Sum	hustrafbh, Sum

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			initiated the short message.			
MS_originated_SM_fail_unknown_MS	ACCUMULATION	INTEGER	Number of failed transmissions of short messages initiated by MS due to user unknown in SGSN.	M117440630.S117462418	Sum	hustrafbh, Sum
MS_originated_SMS_attempts	ACCUMULATION	INTEGER	Number attempts of MS in initiating the short message.	M117440630.S117462413	Sum	hustrafbh, Sum
MS_originated_SMS_fail_authentication_fail	ACCUMULATION	INTEGER	Number of failed transmissions of short messages initiated by MS due to authentication failure.	M117440630.S117462415	Sum	hustrafbh, Sum
MS_originated_SMS_fail_ciphering_mode_setting_fail	ACCUMULATION	INTEGER	Number of failed transmissions of short messages initiated by MS due to failure in setting the encryption mode.	M117440630.S117462416	Sum	hustrafbh, Sum
MS_originated_SMS_successes	ACCUMULATION	INTEGER	Number of successful transmissions of short messages initiated by MS.	M117440630.S117462414	Sum	hustrafbh, Sum
MS_rec_SM_attempts	ACCUMULATION	INTEGER	Number of times SGSN	M117440630.S117462423	Sum	hustrafbh, Sum

			sends short messages to MS.			
MS_rec_SM_fail_device_not_support	ACCUMULATION	INTEGER	Number of failures of the mobile terminating short message for the device does not support the short message during the process when SGSN sends short messages to MS.	M117440630.S117462428	Sum	hustrafbh, Sum
MS_rec_SM_fail_illegal_user	ACCUMULATION	INTEGER	Number of failures of the mobile terminating short message due to user illegal during the process when SGSN sends short messages to MS.	M117440630.S117462429	Sum	hustrafbh, Sum
MS_rec_SM_fail_memory_fail	ACCUMULATION	INTEGER	Number of failures of the mobile terminating short message due to memory failure during the process when SGSN sends short messages to	M117440630.S117462432	Sum	hustrafbh, Sum

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			MS.			
MS_rec_SM_fail_SM_delivery_fail	ACCUMULATION	INTEGER	Number of failures of the mobile terminating short message due to SM delivery failure during the process when SGSN sends short messages to MS.	M117440630.S117462431	Sum	hustrafbh, Sum
MS_rec_SM_fail_system_fault	ACCUMULATION	INTEGER	Number of failures of the mobile terminating short message due to system fault during the process when SGSN sends short messages to MS.	M117440630.S117462430	Sum	hustrafbh, Sum
MS_rec_SM_fail_unidentified_user	ACCUMULATION	INTEGER	Number of failures of the mobile terminating short message due to user unidentified during the process when SGSN sends short messages to MS.	M117440630.S117462425	Sum	hustrafbh, Sum
MS_rec_SM_fail_user_busy	ACCUMULATION	INTEGER	Number of failures of the mobile terminating short message due to user busy during the	M117440630.S117462427	Sum	hustrafbh, Sum

			process when SGSN sends short messages to MS.			
MS_rec_SM_fail_user_unattached	ACCUMULATION	INTEGER	Number of failures of the mobile terminating short message due to user unattached during the process when SGSN sends short messages to MS.	M117440630.S117462426	Sum	hustrafbh, Sum
MS_rec_SM_successes	ACCUMULATION	INTEGER	Number of times SGSN succeeds in sending short messages to MS.	M117440630.S117462424	Sum	hustrafbh, Sum
MS_received_SM_fail_protocol_fail	ACCUMULATION	INTEGER	Number of failures of the mobile terminating short message due to protocol error failure during the process when SGSN sends short messages to MS.	M117440630.S117462497	Sum	hustrafbh, Sum
Notifications_due_MS_re_presence	ACCUMULATION	INTEGER	Number of notifications sent by SGSN to HLR to initiate MT	M117440630.S117462433	Sum	hustrafbh, Sum

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			SMS procedure due to MS re-presence.			
Notifications_MS_mem_avail	ACCUMULATION	INTEGER	Number of notifications sent by SGSN to HLR to initiate MT SMS procedure because a subscriber indicates memory available.	M117440630.S117462434	Sum	hustrafbh, Sum
Num_of_Forwarded_bytes_for_MO_SMS	ACCUMULATION	INTEGER	The bytes of MO SMS msg forwarded.	M117440630.S117462439	Sum	hustrafbh, Sum
Num_of_Forwarded_bytes_for_MT_SMS	ACCUMULATION	INTEGER	The bytes of MT SMS msg forwarded.	M117440630.S117462440	Sum	hustrafbh, Sum
SMMO_fail_ODB	ACCUMULATION	INTEGER	Number of failures of the MO short message service for ODB.	M117440630.S117462441	Sum	hustrafbh, Sum
SMMO_fail_protocol_error	ACCUMULATION	INTEGER	Number of failures of the MO short message service for protocol error.	M117440630.S117462442	Sum	hustrafbh, Sum

7.31.89SGSN.Huawei.GPRS.Supplementary_Service

Supplementary Service measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
SGSN_receive_SS_L3_signalling_msg	ACCUMULATION	INTEGER	Number of SGSN-received SS-related L3	M117440629.S117462313	Sum	hustrafbh, Sum

			messages.			
SGSN_send_SS_L3_signalling_msg	ACCUMULATION	INTEGER	Number of SGSN-sent SS-related L3 messages.	M117440629.S117462314	Sum	hustrafbh, Sum

7.31.90SGSN.Huawei.GPRS.TCAP_Component_Utilization

TCAP Component Utilization measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
Components_sent	ACCUMULATION	INTEGER	Number of operation invoke components sent by the node.	M117440618.S117461213	Sum	hustrafbh, Sum
Componets_rec	ACCUMULATION	INTEGER	Number of operation invoke components received by the node.	M117440618.S117461214	Sum	hustrafbh, Sum
Reject_component_rec	ACCUMULATION	INTEGER	Number of reject components received by the node.	M117440618.S117461222	Sum	hustrafbh, Sum
Reject_component_sent	ACCUMULATION	INTEGER	Number of reject components sent by the node.	M117440618.S117461221	Sum	hustrafbh, Sum
Return_error_comp_rec	ACCUMULATION	INTEGER	Number of return error	M117440618.S117461220	Sum	hustrafbh, Sum

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			components received by the node.			
Return_error_comp_sent	ACCUMULATION	INTEGER	Number of return error components sent by the node.	M117440618.S117461219	Sum	hustrafbh, Sum
Return_result_rec_util_not_last	ACCUMULATION	INTEGER	Number of return result (non final result) invoke components received by the node.	M117440618.S117461218	Sum	hustrafbh, Sum
Return_result_util_rec	ACCUMULATION	INTEGER	Number of return result (final result) invoke components received by the node.	M117440618.S117461216	Sum	hustrafbh, Sum
Return_result_util_sent_not_last	ACCUMULATION	INTEGER	Number of return result (non the final result) invoke components sent by the node.	M117440618.S117461217	Sum	hustrafbh, Sum
Return_result_util_sent	ACCUMULATION	INTEGER	Number of return result (final result) invoke components sent by the node.	M117440618.S117461215	Sum	hustrafbh, Sum

7.31.91SGSN.Huawei.GPRS.TCAP_CSL

TCAP CSL measurement

KPI	Type	Data	Description	Derivation	Default	Other

		Type			Aggregator	Aggregators
Badly_structured_component	ACCUMULATION	INTEGER	Number of badly structured components received by TCAP	M117440621.S117461515	Sum	hustrafbh, Sum
Mistyped_component	ACCUMULATION	INTEGER	Number of mistyped components in TCAP processing.	M117440621.S117461514	Sum	hustrafbh, Sum
Return_error_unexpected	ACCUMULATION	INTEGER	Number of unexpected return errors received by TCAP.	M117440621.S117461519	Sum	hustrafbh, Sum
Return_result_unexpected	ACCUMULATION	INTEGER	TCAP receives operations that include unrecognized linked IDs.	M117440621.S117461517	Sum	hustrafbh, Sum
Unrecognized_component	ACCUMULATION	INTEGER	Number of unrecognized components in TCAP processing.	M117440621.S117461513	Sum	hustrafbh, Sum
Unrecognized_ID_in_return_error	ACCUMULATION	INTEGER	Number of unrecognized operation IDs contained in the return errors received by TCAP.	M117440621.S117461520	Sum	hustrafbh, Sum
Unrecognized_ID_in_return_res	ACCUMULATION	INTEGER	Number of unrecognized	M117440621.S117461518	Sum	hustrafbh, Sum

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ult			operation IDs contained in the return results received by TCAP.			
Unrecognized_linked_ID	ACCUMULATION	INTEGER	Number of unrecognized linked IDs in TCAP processing.	M117440621.S117461516	Sum	hustrafbh, Sum

7.31.92SGSN.Huawei.GPRS.TCAP_Message

TCAP Message measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
Reject_message_rec	ACCUMULATION	INTEGER	Number of reject messages received by the node.	M117440619.S117461322	Sum	hustrafbh, Sum
Reject_message_sent	ACCUMULATION	INTEGER	Number of reject messages sent by the node.	M117440619.S117461321	Sum	hustrafbh, Sum
Return_error_result_rec	ACCUMULATION	INTEGER	Number of return error messages received by the node.	M117440619.S117461320	Sum	hustrafbh, Sum
Return_error_result_sent	ACCUMULATION	INTEGER	Number of return error messages sent by the node.	M117440619.S117461319	Sum	hustrafbh, Sum
Return_result_msg_rec_not_final	ACCUMULATION	INTEGER	Number of return results - not final result messages received by the node.	M117440619.S117461318	Sum	hustrafbh, Sum

Return_result_msg_rec	ACCUMULATION	INTEGER	Number of return results - final result messages received by the node.	M117440619.S117461316	Sum	hustrafbh, Sum
Return_result_msg_sent_not_final	ACCUMULATION	INTEGER	Number of return results - not final result messages.	M117440619.S117461317	Sum	hustrafbh, Sum
Return_result_msg_sent	ACCUMULATION	INTEGER	Number of return results - final result messages.	M117440619.S117461315	Sum	hustrafbh, Sum
TCAP_message_rec	ACCUMULATION	INTEGER	Number of TCAP messages received by the node.	M117440619.S117461314	Sum	hustrafbh, Sum
TCAP_message_sent	ACCUMULATION	INTEGER	Number of TCAP messages sent by the node.	M117440619.S117461313	Sum	hustrafbh, Sum

7.31.93SGSN.Huawei.GPRS.TCAP_TSL

TCAP TSL measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
Badly_formatted_trans_rec_P_ABORT	ACCUMULATION	INTEGER	Number of P_Abort generations caused by the badly formatted transaction portion in the	M117440620.S117461420	Sum	hustrafbh, Sum

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			message received from the peer			
Badly_formatted_trans_sent_P_ABORT	ACCUMULATION	INTEGER	Number of PABORT messages sent carrying the cause value of "Badly formatted transaction portion".	M117440620.S117461425	Sum	hustrafbh, Sum
Incor_trans_portion_rec_P_ABORT	ACCUMULATION	INTEGER	Number of P_Abort generations caused by that the message received from the peer contains incorrect transaction portions.	M117440620.S117461419	Sum	hustrafbh, Sum
Incor_trans_portion_sent_P_ABORT	ACCUMULATION	INTEGER	Number of PABORT messages sent carrying the cause value of "Incorrect transaction portion".	M117440620.S117461424	Sum	hustrafbh, Sum
Res_limit_trans_rec_P_ABORT	ACCUMULATION	INTEGER	Number of P_Abort generations caused by that there is no available resources.	M117440620.S117461422	Sum	hustrafbh, Sum
Res_limit_trans_sent_P_ABORT	ACCUMULATION	INTEGER	Number of PABORT messages sent carrying the cause value of	M117440620.S117461427	Sum	hustrafbh, Sum

			"Resource limitation".			
Unrecog_message_type_rec_P_ABORT	ACCUMULATION	INTEGER	Number of P_Abort generations caused by that the message received from the peer contains unrecognized message types.	M117440620.S117461418	Sum	hustrafbh, Sum
Unrecog_msg_type_sent_P_ABORT	ACCUMULATION	INTEGER	Number of PABORT messages sent carrying the cause value of "Unrecognised message type".	M117440620.S117461423	Sum	hustrafbh, Sum
Unrecognized_trans_ID_rec_P_ABORT	ACCUMULATION	INTEGER	Number of P_Abort generations caused by that the message received from the peer contains unrecognized transaction ID.	M117440620.S117461421	Sum	hustrafbh, Sum
Unrecognized_trans_ID_sent_P_ABORT	ACCUMULATION	INTEGER	Number of PABORT messages sent carrying the cause value of "Unrecognised transaction ID".	M117440620.S117461426	Sum	hustrafbh, Sum

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7.31.94SGSN.Huawei.GPRS.UE_Transfer_Bandwidth

UE Transfer Bandwidth measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
Allocated_real_time_service_avg_bw	INTENSITY	FLOAT	The arithmetic mean value of allocated real-time service bandwidth in UE within the measurement period.	M117440540.S11745 3415	Average	Average, hustrafbh, Maximum, Minimum, Sum
Avg_UE_transfer_bw	INTENSITY	FLOAT	The arithmetic mean value of UE transfer bandwidth within the measurement period.	M117440540.S11745 3413	Average	Average, hustrafbh, Maximum, Minimum, Sum
Max_UE_transfer_bw	INTENSITY	FLOAT	The highest recorded value for the value of UE transfer bandwidth within the measurement period .	M117440540.S11745 3414	Constant	Average, hustrafbh, Maximum, Minimum, Sum
Non_real_time_service_avg_bw	INTENSITY	FLOAT	The arithmetic mean value of non-real time service occupied bandwidth in UE within the measurement period.	M117440540.S11745 3416	Average	Average, hustrafbh, Maximum, Minimum, Sum

7.31.95SGSN.Huawei.GPRS.UGFU_NS_Transferred_IP_Packet

UGFU NS Transferred IP Packet measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregat	Other Aggrega

					or	tors
Gb_DL_pkts_rec_by_UGFU	ACCUMULATION	INTEGER	Number of IP data packets that the UGFU board received from the UGBI board over the Gb interface.	M117440665.S117465915	Sum	hustrafbh, Sum
Gb_DL_pkts_sent_by_UGFU	ACCUMULATION	INTEGER	Number of downlink (DL) data packets that the UGFU board forwards to the BSS through the IP network over the Gb interface.	M117440665.S117465916	Sum	hustrafbh, Sum
Gb_UL_pkts_discard_match_fail	ACCUMULATION	INTEGER	Number of Gb interface data packets that are discarded by the UGFU board due to uplink (UL) match failure.	M117440665.S117465917	Sum	hustrafbh, Sum
Gb_UL_pkts_discard_protocol_fail	ACCUMULATION	INTEGER	Number of Gb interface data packets that are discarded by the UGFU board due to uplink (UL) protocol match failure.	M117440665.S117465918	Sum	hustrafbh, Sum
Gb_UL_pkts_discarded_for_flow_ctrl	ACCUMULATION	INTEGER	Number of Gb interface data packets that are	M117440665.S117465919	Sum	hustrafbh, Sum

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			discarded by the UGFU board due to uplink (UL) flow control.			
Gb_UL_pkts_rec_by_UGFU	ACCUMULATION	INTEGER	Number of IP data packets that the UGFU board received from the IP network over the Gb interface.	M117440665.S117465913	Sum	hustrafbh, Sum
Gb_UL_pkts_sent_by_UGFU	ACCUMULATION	INTEGER	Number of IP data packets that the UGFU board forwards to the UGBI board over the Gb interface.	M117440665.S117465914	Sum	hustrafbh, Sum

7.32 SGSN_Board Performance Indicators

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

- SGSN_Board.Huawei.GPRS.SGSN_Resource
- SGSN_Board.Huawei.GPRS.TCP_IP
- SGSN_Board.Huawei.GPRS.UGBI_board_traffic
- SGSN_Board.Huawei.GPRS.UGBI_MS_cong_loadshare
- SGSN_Board.Huawei.GPRS.UGFU_board_traffic

7.32.1 SGSN_Board.Huawei.GPRS.SGSN_Resource

(Obsolete from V900R010) System Resource measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
Avg_CPU_occupation_ratio	INTENSITY	FLOAT	Obsolete from CN-SGSN/V900R010.C01SPC022: Arithmetical	M117440626.S117462013	Average	Average, hubcpubh, hustrafbh,

			mean of the CPU occupancy ratio of the board. The CPU occupancy ratio is the quotient of the CPU occupancy time and the sampling period within the sampling period.			Maximum, Minimum, Sum
Avg_dynamic_memory_util_ratio	INTENSITY	FLOAT	Obsolete from CN-SGSN/V900R010.C01SPC022: Utilization ratio of the dynamic memory. The utilization ratio of the dynamic memory is the percentage of the part in the dynamic memory that has been occupied over the whole dynamic memory.	M117440626.S117462015	Average	Average, hubcpubh, hustrafbh, Maximum, Minimum, Sum
Avg_message_cache_area_util_ratio	INTENSITY	FLOAT	Obsolete from CN-SGSN/V900R010.C01SPC022: Utilization ratio of the message buffer area. The utilization ratio	M117440626.S117462014	Average	Average, hubcpubh, hustrafbh, Maximum, Minimu

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			of the message buffer area is the percentage of the part in the message buffer area that has been occupied over the whole buffer area.			m, Sum
CPU_congestion_duration	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Duration of times the CPU occupancy ratio exceeds 95%.	M117440626.S117462019	Sum	hubcpubh, hustrafbh, Sum
CPU_congestion_times	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Number of times the CPU occupancy ratio exceeds 95%.	M117440626.S117462018	Sum	hubcpubh, hustrafbh, Sum
CPU_overload_duration	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Duration of times the CPU occupancy ratio exceeds 85%.	M117440626.S117462017	Sum	hubcpubh, hustrafbh, Sum
CPU_overload_times	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Number of times the CPU occupancy ratio exceeds 85%.	M117440626.S117462016	Sum	hubcpubh, hustrafbh, Sum
Max_CPU_occ	INTENSITY	FLOA	Obsolete from	M117440626.S117	Constant	Average,

upation_ratio		T	CN-SGSN/V900R010.C01SPC022: Maximum of the CPU occupancy ratio of the board.	462020		hubcpubh, hustrafbh, Maximum, Minimum, Sum

7.32.2 SGSN_Board.Huawei.GPRS.TCP_IP

(Obsolete from V900R010) TCP IP measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
Errors_msg_rec	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Number of error messages received by TCP from the IP layer.	M117440631.S117462530	Sum	hubcpubh, hustrafbh, Sum
IP_layer_data_kbytes_rec	ACCUMULATION	INT8	Obsolete from CN-SGSN/V900R010.C01SPC022: The Kbytes of IP messages received by the IP layer.	M117440631.S117462514	Sum	hubcpubh, hustrafbh, Sum
IP_layer_data_kbytes_sent	ACCUMULATION	INT8	Obsolete from CN-SGSN/V900R010.C01SPC022: The Kbytes of IP messages	M117440631.S117462519	Sum	hubcpubh, hustrafbh, Sum

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			that the transport layer requests the IP layer to transmit.			
IP_layer_errored_msg_rec	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Number of IP packets discarded due to a non-flow control cause during reception.	M117440631.S117462516	Sum	hubcpubh, hustrafbh, Sum
IP_layer_msg_discarded_flow_control	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Number of ICMP echo request messages discarded due to flow control or IP packets discarded due to IP queue overflow.	M117440631.S117462517	Sum	hubcpubh, hustrafbh, Sum
IP_layer_msg_rec	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Number of messages received by the IP layer.	M117440631.S117462513	Sum	hubcpubh, hustrafbh, Sum
IP_layer_msg_sent	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Number of	M117440631.S117462518	Sum	hubcpubh, hustrafbh, Sum

			messages requested to be transmitted by the IP layer.			
IP_layer_segments_rec	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Number of fragments received by the IP layer.	M117440631.S117462515	Sum	hubcpubh, hustrafbh, Sum
Msg_in_segments_IP_layer_trans	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Number of messages to be sent as fragments by the IP layer.	M117440631.S117462520	Sum	hubcpubh, hustrafbh, Sum
Msg_with_err_in_trans_frm_IP_layer	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Number of messages discarded due to error in the transmission by the IP layer.	M117440631.S117462521	Sum	hubcpubh, hustrafbh, Sum
Msg_with_err_in_trans_from_TCP	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Number of errors in data transmission by the upper-layer	M117440631.S117462533	Sum	hubcpubh, hustrafbh, Sum

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			module through TCP.			
Msg_with_err_in_trans_from_UDP	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Number of errors in data transmission by the upper-layer module through UDP.	M117440631.S117462527	Sum	hubcpubh, hustrafbh, Sum
TCP_data_Kbyte_rec	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: The Kbytes of messages received by TCP from the IP layer.	M117440631.S117462529	Sum	hubcpubh, hustrafbh, Sum
TCP_data_Kbyte_sent	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: The Kbytes of messages sent by TCP to the IP layer.	M117440631.S117462532	Sum	hubcpubh, hustrafbh, Sum
TCP_msg_rec	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Number of messages received by TCP from the IP layer.	M117440631.S117462528	Sum	hubcpubh, hustrafbh, Sum
TCP_msg_sent	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Number of	M117440631.S117462531	Sum	hubcpubh, hustrafbh, Sum

			messages sent by TCP to the IP layer.			
UDP_data_Kbyte_rec	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: The Kbytes of IP messages received by UDP from the IP layer.	M117440631.S117462523	Sum	hubcpubh, hustrafbh, Sum
UDP_data_Kbyte_sent	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: The Kbytes of messages transmitted by the upper-layer module through UDP.	M117440631.S117462526	Sum	hubcpubh, hustrafbh, Sum
UDP_error_error_msg_rec	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Number of error messages received by UDP from the IP layer.	M117440631.S117462524	Sum	hubcpubh, hustrafbh, Sum
UDP_msg_rec	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Number of messages received by UDP from the	M117440631.S117462522	Sum	hubcpubh, hustrafbh, Sum

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			IP layer.			
UDP_sent_msg_sent	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: Number of data transmissions by the upper-layer module through UDP.	M117440631.S117462525	Sum	hubcpubh, hustrafbh, Sum

7.32.3 SGSN_Board.Huawei.GPRS.UGBI_board_traffic

(Obsolete from V900R010) UGBI board traffic measuement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
LLC_data_kB_rcvd_from_BSSGP	ACCUMULATION	INT8	Obsolete from CN-SGSN/V900R010.C01SPC022:LLC data kbytes received from BSSGP	M117440718.S117474116	Sum	hustrafbh
LLC_data_kbytes_sent_to_BSSGP	ACCUMULATION	INT8	Obsolete from CN-SGSN/V900R010.C01SPC022:LLC data kbytes sent to BSSGP	M117440718.S117474114	Sum	hustrafbh
LLC_data_pkts_rcvd_from_BSSGP	ACCUMULATION	INT8	Obsolete from CN-SGSN/V900R010.C01SPC022:LLC data packets received from BSSGP	M117440718.S117474115	Sum	hustrafbh
LLC_data_pkts_sent_to_BSSGP	ACCUMULATION	INT8	Obsolete from CN-SGSN/V900R010.C01SPC022:L	M117440718.S117474113	Sum	hustrafbh

			LC data packets sent to BSSGP			
LLC_peak_data_kB_rcvd_BSSGP	INTENSITY	INT8	Obsolete from CN-SGSN/V900R010.C01SPC022:LLC peak data kbytes received from BSSGP	M117440718.S117474124	Average	hustrafbh, Maximum, Sum, Minimum
LLC_peak_data_kB_sent_to_BSSGP	INTENSITY	INT8	Obsolete from CN-SGSN/V900R010.C01SPC022:LLC peak data kbytes sent to BSSGP	M117440718.S117474122	Average	hustrafbh, Maximum, Sum, Minimum
LLC_peak_data_pkt_rcvd_BSSGP	INTENSITY	INT8	Obsolete from CN-SGSN/V900R010.C01SPC022:LLC peak data packets received from BSSGP	M117440718.S117474123	Average	hustrafbh, Maximum, Sum, Minimum
LLC_peak_data_pkt_sent_BSSGP	INTENSITY	INT8	Obsolete from CN-SGSN/V900R010.C01SPC022:LLC peak data packets sent to BSSGP	M117440718.S117474121	Average	hustrafbh, Maximum, Sum, Minimum
LLC_peak_sig_kB_rcvd_BSSGP	INTENSITY	INT8	Obsolete from CN-SGSN/V900R010.C01SPC022:LLC peak signalling kbytes received from BSSGP	M117440718.S117474128	Average	hustrafbh, Maximum, Sum, Minimum

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LLC_peak_sig_kB_sent_BSSGP	INTENSITY	INT8	Obsolete from CN-SGSN/V900R010.C01SPC022:LLC peak signalling kbytes sent to BSSGP	M117440718.S117474126	Average	hustrafbh, Maximum, Sum, Minimum
LLC_peak_sig_pkt_rcvd_BSSGP	INTENSITY	INT8	Obsolete from CN-SGSN/V900R010.C01SPC022:LLC peak signalling packets received from BSSGP	M117440718.S117474127	Average	hustrafbh, Maximum, Sum, Minimum
LLC_peak_sig_pkt_sent_BSSGP	INTENSITY	INT8	Obsolete from CN-SGSN/V900R010.C01SPC022:LLC peak signalling packets sent to BSSGP	M117440718.S117474125	Average	hustrafbh, Maximum, Sum, Minimum
LLC_sig_kB_rcvd_BSSGP	ACCUMULATION	INT8	Obsolete from CN-SGSN/V900R010.C01SPC022:LLC signalling kbytes received from BSSGP	M117440718.S117474120	Sum	hustrafbh
LLC_sig_kB_sent_BSSGP	ACCUMULATION	INT8	Obsolete from CN-SGSN/V900R010.C01SPC022:LLC signalling kbytes sent to BSSGP	M117440718.S117474118	Sum	hustrafbh
LLC_sig_pkt_rcvd_BSSGP	ACCUMULATION	INT8	Obsolete from CN-SGSN/V900R010.C01SPC022:LLC signalling packets received	M117440718.S117474119	Sum	hustrafbh

			from BSSGP			
LLC_sig_pkt_sent_BSSGP	ACCUMULATION	INT8	Obsolete from CN-SGSN/V900R010.C01SPC022:LLC signalling packets sent to BSSGP	M117440718.S117474117	Sum	hustrafbh

7.32.4 SGSN_Board.Huawei.GPRS.UGBI_MS_cong_loadshare

(Obsolete from V900R010) UGBI MS congestion loadshare measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
Global_subrack_diff_dmn_card	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022:UGBI MS congestion loadshare global subrack different domain card selected	M117440712.S117473516	Sum	hubcpubh, hustrafbh
Global_subrack_same_dmn_card	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022:UGBI MS congestion loadshare global subrack same domain card selected	M117440712.S117473515	Sum	hubcpubh, hustrafbh
Local_card_selected	ACCUMULATION	INTEGER	Obsolete from CN-	M117440712.S117473513	Sum	hubcpubh,

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			SGSN/V900R010.C01SPC022: UGBI MS congestion loadshare local card selected			hustrafbh
Local_subrack_card_selected	ACCUMULATION	INTEGER	Obsolete from CN-SGSN/V900R010.C01SPC022: UGBI MS congestion loadshare local subrack card selected	M117440712.S117473514	Sum	hubcpubh, hustrafbh

7.32.5 SGSN_Board.Huawei.GPRS.UGFU_board_traffic

(Obsolete from V900R010) UGFU board traffic measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
GTPU_kB_host_fwded	ACCUMULATION	INT8	Obsolete from CN-SGSN/V900R010.C01SPC022: GTP-U KBytes host forwarded in the UGFU board	M117440721.S117474413	Sum	hustrafbh
GTPU_Mean_pkt_host_fwded	INTENSITY	INT8	Obsolete from CN-SGSN/V900R010.C01SPC022: GTP-U Mean packets host forwarded in the UGFU board	M117440721.S117474417	Average	hustrafbh, Sum, Minimum, Maximum
GTPU_Mean_Throughput_host_fwd	INTENSITY	INT8	Obsolete from CN-SGSN/V900R010.C01SPC022:	M117440721.S117474415	Average	hustrafbh, Sum, Minimum,

			GTP-U Mean Throughput host forwarded in the UGFU board			Maximum
GTPU_Peak_pkt_host_fwded	INTENSITY	INT8	Obsolete from CN-SGSN/V900R010.C01SPC022: GTP-U Peak packets host forwarded in the UGFU board	M117440721.S117474418	Average	hustrafbh, Maximum, Sum, Minimum
GTPU_Peak_Throughput_host_fwd	INTENSITY	INT8	Obsolete from CN-SGSN/V900R010.C01SPC022: GTP-U Peak Throughput host forwarded in the UGFU board	M117440721.S117474416	Average	hustrafbh, Maximum, Sum, Minimum
GTPU_pkt_host_fwded	ACCUMULATION	INT8	Obsolete from CN-SGSN/V900R010.C01SPC022: GTP-U packets host forwarded in the UGFU board	M117440721.S117474414	Sum	hustrafbh
GTPU_U_Mean_Throughput	INTENSITY	INT8	Obsolete from CN-SGSN/V900R010.C01SPC022: GTPU_U Mean Throughput in the UGFU board	M117440721.S117474420	Average	hustrafbh, Sum, Minimum, Maximum
GTPU_U_Peak_Throughput	INTENSITY	INT8	Obsolete from CN-	M117440721.S117474421	Average	hustrafbh,

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			SGSN/V900R010.C01SPC022: GTPU_U Peak Throughput in the UGFU board			Maximum, Sum, Minimum
GTPU_U_Throughput	ACCUMULATION	INT8	Obsolete from CN-SGSN/V900R010.C01SPC022: GTPU_U Throughput in the UGFU board	M117440721.S117474419	Sum	hustrafbh

7.33 SGSN_PLMN Performance Indicators

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

- SGSN_PLMN.Huawei.GPRS.Gb_user_per_PLMN
- SGSN_PLMN.Huawei.GPRS.Iu_user_per_PLMN

7.33.1 SGSN_PLMN.Huawei.GPRS.Gb_user_per_PLMN

Subscribers measurements for specific PLMN - 2G

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
Att_avg_user_number_per_PLMN	INTENSITY	INTEGER	Mean 2G subscribers of specific PLMN	M117440686.S117470615	Average	hustrafbh, Sum, Minimum, Maximum
Att_max_user_number_per_PLMN	INTENSITY	INTEGER	Maximum 2G subscribers of specific PLMN	M117440686.S117470614	Average	hustrafbh, Maximum, Sum, Minimum
Gb_Att_user_n	ACCUMULA	INTEG	Number of 2G	M117440686.S117	Sum	hustrafbh

umber_per_PLMN	TION	ER	attached mobile users of specific PLMN	470613		

7.33.2 SGSN_PLMN.Huawei.GPRS.Iu_user_per_PLMN

Subscribers measurements for specific PLMN - 3G

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
_3G_Att_user_number_per_PLMN	ACCUMULATION	INTEGER	Number of 3G attached mobile users of specific PLMN	M117440687.S117470713	Sum	hustrafbh
Att_avg_user_number_per_PLMN	INTENSITY	INTEGER	Mean 3G subscribers i of specific PLMN	M117440687.S117470715	Average	hustrafbh, Sum, Minimum, Maximum
Att_max_user_number_per_PLMN	INTENSITY	INTEGER	Maximum 3G subscribers of specific PLMN	M117440687.S117470714	Average	hustrafbh, Maximum, Sum, Minimum

7.34 SGSN_VLAN Performance Indicators

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

- SGSN_VLAN.Huawei.GPRS.IP_packet_within_special_VLAN

7.34.1 SGSN_VLAN.Huawei.GPRS.IP_packet_within_special_VLAN

IP traffic (packets and kbytes) within Virtual Local Area Network.

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KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators

Received_kbytes_on_special_VLAN	ACCUMULATION	INT8	Number of kbtyes received by specific VLAN.	M117440675.S117468614	Sum	hustrafbh, Sum
Received_packets_on_special_VLAN	ACCUMULATION	INT8	Number of packets received by specific VLAN.	M117440675.S117468613	Sum	hustrafbh, Sum
Sent_kbytes_on_special_VLAN	ACCUMULATION	INT8	Number of kbytes sent by specific VLAN.	M117440675.S117468616	Sum	hustrafbh, Sum
Sent_packets_on_special_VLAN	ACCUMULATION	INT8	Number of packets sent by specific VLAN.	M117440675.S117468615	Sum	hustrafbh, Sum

7.35 System_Resource Performance Indicators

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

- System_Resource.Huawei.GPRS.Process_Resource

7.35.1 System_Resource.Huawei.GPRS.Process_Resource

Process resource measurements

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
Absolutely_avg_CPU_occu_ratio	INTENSITY	FLOAT	The arithmetical mean of the absolutely CPU occupancy ratio of the process. The CPU occupancy ratio is the quotient of the CPU	M117440617.S117462029	Average	hustrafbh, Sum, Minimum, Maximum

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			occupancy time and the sampling period within the sampling period.			
Absolutely_max_CPU_occu_ratio	INTENSITY	FLOAT	Maximum value of the absolutely CPU usage of a process.	M117440617.S117462030	Average	hustrafbh, Maximum, Sum, Minimum
Proc_avg_dyn_memory_util_ratio	INTENSITY	FLOAT	The average value of the utilization ratio of the dynamic memory. The utilization ratio of the dynamic memory is the percentage of the part in the dynamic memory that has been occupied over the whole dynamic memory.	M117440617.S117462023	Average	hustrafbh, Sum, Minimum, Maximum
Proc_avg_msg_cache_util_ratio	INTENSITY	FLOAT	The average value of the utilization ratio of the message buffer area. The utilization ratio of the message buffer area is the percentage of the part in the message buffer area that has been occupied over the whole	M117440617.S117462022	Average	hustrafbh, Sum, Minimum, Maximum

			buffer area.			
Proc_CPU_congest_duration	ACCUMULATION	INTEGER	The duration of times the CPU occupancy ratio exceeds 95%.	M117440617.S117462027	Sum	hustrafbh
Proc_Max_CPU_occu_ratio	INTENSITY	FLOAT	Maximum value of the CPU usage of a process.	M117440617.S117462028	Average	hustrafbh, Maximum, Sum, Minimum
Process_avg_CPU_occu_ratio	INTENSITY	FLOAT	The arithmetical mean of the CPU occupancy ratio of the process. The CPU occupancy ratio is the quotient of the CPU occupancy time and the sampling period within the sampling period.	M117440617.S117462021	Average	hustrafbh, Sum, Minimum, Maximum
Process_CPU_congestion	ACCUMULATION	INTEGER	The number of times the CPU occupancy ratio exceeds 95%.	M117440617.S117462026	Sum	hustrafbh
Process_CPU_overload_duration	ACCUMULATION	INTEGER	The duration of times the CPU occupancy ratio exceeds 85%.	M117440617.S117462025	Sum	hustrafbh
Process_CPU_overload	ACCUMULATION	INTEGER	The number of times the CPU occupancy ratio exceeds 85%.	M117440617.S117462024	Sum	hustrafbh

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7.36 UPIU_Port Performance Indicators

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

- UPIU_Port.Huawei.GPRS.Error_VLAN_within_special_Port
- UPIU_Port.Huawei.GPRS.Eth_port_stat

7.36.1 UPIU_Port.Huawei.GPRS.Error_VLAN_within_special_Port

Error Virtual Local Area Network with special SGSN port.

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
Packets_droped_due_to_illegal_vlan_id	ACCUMULATION	INTEGER	Packets droped due to illegal vlan id.	M117440676.S117469613	Sum	hustrafbh, Sum
Packets_droped_due_to_non_canonical_vlan_format	ACCUMULATION	INTEGER	Packets droped due to non-canonical vlan format.	M117440676.S117469614	Sum	hustrafbh, Sum
Packets_droped_due_to_other_error	ACCUMULATION	INTEGER	Packets droped due to other error.	M117440676.S117469616	Sum	hustrafbh, Sum
Packets_droped_due_to_vlan_not_configured	ACCUMULATION	INTEGER	Packets droped due to vlan not configured.	M117440676.S117469615	Sum	hustrafbh, Sum

7.36.2 UPIU_Port.Huawei.GPRS.Eth_port_stat

(Obsolete from V900R010) Ethernet port data measurement

KPI	Type	Data Type	Description	Derivation	Default Aggregator	Other Aggregators
Eth_port_rcvd_data_MB	ACCUMULATION	INT8	Obsolete from CN-SGSN/V900R010.C01SPC022:The received Mbytes data of	M117440720.S117474314	Sum	hustrafbh

			Ethernet port			
Eth_port_sent_data_MB	ACCUMULATION	INT8	Obsolete from CN-SGSN/V900R010.C01SPC022:The sent Mbytes data of Ethernet port	M117440720.S117474313	Sum	hustrafbh

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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.

- BSS_NSE Reports.
- GnGp_IPV4 Reports.
- GnGp_IPV6 Reports.
- M3UA_Link Reports.
- MTP3B_Link Reports.
- MTP3_Link Reports.
- MTP3_LinkSet Reports.
- MVNO Reports.
- NSVC Reports.
- Routing_Area Reports.
- SGSN Reports.
- SGSN_Board Reports.

9.1 BSS_NSE Reports.

This section shows reports for the BSS_NSE object.

- Gb traffic throughput graph
- Gb traffic throughput report

9.1.1 Gb traffic throughput graph

This graph shows the traffic throughput performance for a selected "BSS NSE". The display consists of three graphs for the selected day.

Report Feature	Details
Report Tree Branch	System.GPRS.Engineering.CN.Huawei.BSS_NSE
Primary Object	BSS_NSE

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Gb Processed	BSS_NSE.Huawei.Gb_Traffic_with_BSS.SGSN_Gb_Mean_Throughput, BSS_NSE.Huawei.Gb_Traffic_with_BSS.SGSN_Gb_Peak_Throughput
Gb Received	BSS_NSE.Huawei.Gb_Traffic_with_BSS.SGSN_Gb_Mean_rec_Throughput, BSS_NSE.Huawei.Gb_Traffic_with_BSS.SGSN_Gb_Peak_rec_Throughput
Gb Sent	BSS_NSE.Huawei.Gb_Traffic_with_BSS.SGSN_Gb_Mean_sent_Throughput, BSS_NSE.Huawei.Gb_Traffic_with_BSS.SGSN_Gb_Peak_sent_Throughput

9.1.2 Gb traffic throughput report

This report shows the "Gb traffic with BSS NSE" performance.

Report Feature	Details
Report Tree Branch	System.GPRS.Engineering.CN.Huawei.BSS_NSE
Primary Object	BSS_NSE
Gb traffic	BSS_NSE.BSS_NSE_Id, BSS_NSE.SGSN_Id, BSS_NSE.Huawei.Gb_Traffic_with_BSS.SGSN_Gb_sent_kbytes, BSS_NSE.Huawei.Gb_Traffic_with_BSS.SGSN_Gb_Mean_sent_Throughput, BSS_NSE.Huawei.Gb_Traffic_with_BSS.SGSN_Gb_Peak_sent_Throughput, BSS_NSE.Huawei.Gb_Traffic_with_BSS.SGSN_Gb_rec_kbytes, BSS_NSE.Huawei.Gb_Traffic_with_BSS.SGSN_Gb_Mean_rec_Throughput, BSS_NSE.Huawei.Gb_Traffic_with_BSS.SGSN_Gb_Peak_rec_Throughput, BSS_NSE.Huawei.Gb_Traffic_with_BSS.SGSN_Gb_operated_kbytes, BSS_NSE.Huawei.Gb_Traffic_with_BSS.SGSN_Gb_Mean_Throughput, BSS_NSE.Huawei.Gb_Traffic_with_BSS.SGSN_Gb_Peak_Throughput

9.2 GnGp_IPV4 Reports.

This section shows reports for the GnGp_IPV4 object.

- GTP IP V4 traffic throughput graph

9.2.1 GTP IP V4 traffic throughput graph

This graph shows the "IP V4 traffic" performance for a selected "GnGp IP V4". The display consists of three graphs for the selected day.

Report Feature	Details
Report Tree Branch	System.GPRS.Engineering.CN.Huawei.GnGp_IPV4
Primary Object	GnGp_IPV4
GTP Sent	GnGp_IPV4.Huawei.Gn_Traffic_with_Specific_Gn_IP.SGSN_GTP_Mean_sent_Throughput, GnGp_IPV4.Huawei.Gn_Traffic_with_Specific_Gn_IP.SGSN_GTP_Peak_sent_Throughput
GTP operated	GnGp_IPV4.Huawei.Gn_Traffic_with_Specific_Gn_IP.SGSN_GTP_Mean_Throughput, GnGp_IPV4.Huawei.Gn_Traffic_with_Specific_Gn_IP.SGSN_GTP_Peak_Throughput
GTP received	GnGp_IPV4.Huawei.Gn_Traffic_with_Specific_Gn_IP.SGSN_GTP_Mean_rec_Throughput, GnGp_IPV4.Huawei.Gn_Traffic_with_Specific_Gn_IP.SGSN_GTP_Peak_rec_Throughput

9.3 GnGp_IPV6 Reports.

This section shows reports for the GnGp_IPV6 object.

- GTP IP V6 traffic throughput graph

9.3.1 GTP IP V6 traffic throughput graph

This graph shows the "IP V6 traffic" performance for a selected "GnGp IP V6". The display consists of three graphs for the selected day.

Report Feature	Details
Report Tree Branch	System.GPRS.Engineering.CN.Huawei.GnGp_IPV6
Primary Object	GnGp_IPV6
GTP Sent	GnGp_IPV6.Huawei.Gn_Traffic_with_Specific_Gn_IPV6.SGSN_GT

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	P_Mean_sent_Throughput_IPV6, GnGp_IPV6.Huawei.Gn_Traffic_with_Specific_Gn_IPV6.SGSN_GTP_Peak_sent_Throughput_IPV6
GTP operated	GnGp_IPV6.Huawei.Gn_Traffic_with_Specific_Gn_IPV6.SGSN_GTP_Mean_Throughput_IPV6, GnGp_IPV6.Huawei.Gn_Traffic_with_Specific_Gn_IPV6.SGSN_GTP_Peak_Throughput_IPV6
GTP received	GnGp_IPV6.Huawei.Gn_Traffic_with_Specific_Gn_IPV6.SGSN_GTP_Mean_rec_Throughput_IPV6, GnGp_IPV6.Huawei.Gn_Traffic_with_Specific_Gn_IPV6.SGSN_GTP_Peak_rec_Throughput_IPV6

9.4 M3UA_Link Reports.

This section shows reports for the M3UA_Link object.

- M3UA link traffic report

9.4.1 M3UA link traffic report

This report shows the "M3UA Link" performance.

Report Feature	Details
Report Tree Branch	System.GPRS.Engineering.CN.Huawei.M3UA_link
Primary Object	M3UA_Link
M3UA Link	M3UA_Link.M3UA_Link_Id, M3UA_Link.M3UA_LinkSet_Id, M3UA_Link.Node_Id, M3UA_Link.Huawei.M3UA_link.Fault_times (DA), M3UA_Link.Huawei.M3UA_link.Unavailable_times, M3UA_Link.Huawei.M3UA_link.Congestion_times, M3UA_Link.Huawei.M3UA_link.Durations_of_unavailable, M3UA_Link.Huawei.M3UA_link.Durations_of_congestion, M3UA_Link.Huawei.M3UA_link.Msg_sent, M3UA_Link.Huawei.M3UA_link.Msg_rec, M3UA_Link.Huawei.M3UA_link.Octets_sent, M3UA_Link.Huawei.M3UA_link.Octets_rec

9.5 MTP3B_Link Reports.

This section shows reports for the MTP3B_Link object.

- MTP3B link traffic report

9.5.1 MTP3B link traffic report

This report shows the "MTP3B Link" performance.

Report Feature	Details
Report Tree Branch	System.GPRS.Engineering.CN.Huawei.MTP3B_link
Primary Object	MTP3B_Link
MTP3B Link	MTP3B_Link.MTP3B_Link_Id, MTP3B_Link.MTP3B_LinkSet_Id, MTP3B_Link.Node_Id, MTP3B_Link.Huawei.MTP3B_Link.Durations_of_in_service (DA), MTP3B_Link.Huawei.MTP3B_Link.MTP3B_MSU_sent, MTP3B_Link.Huawei.MTP3B_Link.MTP3B_MSU_rec, MTP3B_Link.Huawei.MTP3B_Link.MTP3B_SIF_and_SIO_OCTETS_sent, MTP3B_Link.Huawei.MTP3B_Link.MTP3B_SIF_and_SIO_OCTETS_rec, MTP3B_Link.Huawei.MTP3B_Link.Fault_times, MTP3B_Link.Huawei.MTP3B_Link.Durations_of_fault, MTP3B_Link.Huawei.MTP3B_Link.Local_LIN_times, MTP3B_Link.Huawei.MTP3B_Link.Durations_of_local_LIN, MTP3B_Link.Huawei.MTP3B_Link.Remote_LIN_times, MTP3B_Link.Huawei.MTP3B_Link.Durations_of_remote_LIN, MTP3B_Link.Huawei.MTP3B_Link.Changeover_times, MTP3B_Link.Huawei.MTP3B_Link.Congestion_times, MTP3B_Link.Huawei.MTP3B_Link.Durations_of_congestion, MTP3B_Link.Huawei.MTP3B_Link.Sending_occupation_percentage, MTP3B_Link.Huawei.MTP3B_Link.Receiving_occupation_percentage

9.6 MTP3_Link Reports.

This section shows reports for the MTP3_Link object.

- MTP3 link traffic report

9.6.1 MTP3 link traffic report

This report shows the "MTP3 Link" performance

Report Feature	Details
Report Tree Branch	System.GPRS.Engineering.CN.Huawei.MTP3_link

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Primary Object	MTP3_Link
MTP3 Link	MTP3_Link.Huawei.MTP3_link.MTP3_rec_TFP, MTP3_Link.MTP3_Link_Id, MTP3_Link.MTP3_LinkSet_Id, MTP3_Link.Node_Id, MTP3_Link.Huawei.MTP3_link.Send_load_erl (DA), MTP3_Link.Huawei.MTP3_link.Receive_load_erl, MTP3_Link.Huawei.MTP3_link.MTP3_MSU_sent, MTP3_Link.Huawei.MTP3_link.MTP3_MSU_rec, MTP3_Link.Huawei.MTP3_link.MTP3_SIF_and_SIO_Octets_sent, MTP3_Link.Huawei.MTP3_link.MTP3_SIF_and_SIO_Octets_rec, MTP3_Link.Huawei.MTP3_link.Fault_times, MTP3_Link.Huawei.MTP3_link.Durations_of_in_service, MTP3_Link.Huawei.MTP3_link.Durations_of_unavailable, MTP3_Link.Huawei.MTP3_link.Duration_of_fault, MTP3_Link.Huawei.MTP3_link.Number_of_congestion, MTP3_Link.Huawei.MTP3_link.Durations_of_congestion, MTP3_Link.Huawei.MTP3_link.Durations_of_local_LIN, MTP3_Link.Huawei.MTP3_link.Remote_LIN_times, MTP3_Link.Huawei.MTP3_link.Durations_of_remote_LIN, MTP3_Link.Huawei.MTP3_link.Remote_processor_fault_times, MTP3_Link.Huawei.MTP3_link.Durations_of_remote_processor_fault, MTP3_Link.Huawei.MTP3_link.Local_auto_changeover_times, MTP3_Link.Huawei.MTP3_link.MSU_discarded_for_congestion

9.7 MTP3_LinkSet Reports.

This section shows reports for the MTP3_LinkSet object.

- MTP3 linkset traffic report

9.7.1 MTP3 linkset traffic report

MTP3 linkset traffic report

Report Feature	Details
Report Tree Branch	System.GPRS.Engineering.CN.Huawei.MTP3_linkSet
Primary Object	MTP3_LinkSet
MTP3 linkset traffic report	MTP3_LinkSet.MTP3_LinkSet_Id, MTP3_LinkSet.MTP3_LinkPoint_Id, MTP3_LinkPoint.Node_Id, MTP3_LinkSet.Huawei.MTP3_link_set.Fault_times, MTP3_LinkSet.Huawei.MTP3_link_set.Durations_of_fault (DA), MTP3_LinkSet.Huawei.MTP3_link_set.MTP3_link_set_send_load_erl, MTP3_LinkSet.Huawei.MTP3_link_set.MTP3_link_set_receive_load

	_erl, MTP3_LinkSet.Huawei.MTP3_link_set.MTP3_MSU_sent, MTP3_LinkSet.Huawei.MTP3_link_set.MTP3_MSU_received, MTP3_LinkSet.Huawei.MTP3_link_set.MTP3_SIF_and_SIO_OCTETS_sent

9.8 MVNO Reports.

This section shows reports for the MVNO object.

- Gb PDP activation and deactivation MVNO report
- Iu PDP activation and deactivation MVNO report

9.8.1 Gb PDP activation and deactivation MVNO report

This report shows the "Network Virtual Operators for Gb mode" performance.

Report Feature	Details
Report Tree Branch	System.GPRS.Engineering.CN.Huawei.MVNO
Primary Object	MVNO
Network Virtual Operators for Gb mode	MVNO.MVNO_Name, MVNO.MVNO_Type, MVNO.MVNO_Id, MVNO.Huawei.Gb_Mode_Radio_Resource_with_MVNO.Attached_users (DA), MVNO.Huawei.Gb_Mode_Attach_with_MVNO.GPRS_attach_request, MVNO.Huawei.Gb_Mode_Attach_with_MVNO.GPRS_attach_accept, MVNO.Huawei.Gb_Mode_Attach_with_MVNO._%_GPRS_attach_accept, MVNO.Huawei.Gb_Mode_Attach_with_MVNO.Combined_attach_request, MVNO.Huawei.Gb_Mode_Attach_with_MVNO.Combined_attach_accept, MVNO.Huawei.Gb_Mode_Attach_with_MVNO._%_Combined_attach_accept, MVNO.Huawei.Gb_Mode_PDP_Context_Activation_with_MVNO.MS_init_PDP_context_act, MVNO.Huawei.Gb_Mode_PDP_Context_Activation_with_MVNO.MS_init_PDP_context_act_success, MVNO.Huawei.Gb_Mode_PDP_Context_Activation_with_MVNO.MS_init_PDP_context_act_reject, MVNO.Huawei.Gb_Mode_SM_Resource_with_MVNO.Activated_P

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	DP, MVNO.Huawei.Gb_Mode_SM_Resource_with_MVNO.Avg_act_PDP_Sessions_interactive, MVNO.Huawei.Gb_Mode_SM_Resource_with_MVNO.Avg_act_PDP_Sessions_conversation, MVNO.Huawei.Gb_Mode_SM_Resource_with_MVNO.Avg_act_PDP_Sessions_streaming, MVNO.Huawei.Gb_Mode_SM_Resource_with_MVNO.Avg_act_PDP_Sessions_background

9.8.2 Iu PDP activation and deactivation MVNO report

This report shows the "Network Virtual Operators for Iu mode" performance.

Report Feature	Details
Report Tree Branch	System.GPRS.Engineering.CN.Huawei.MVNO
Primary Object	MVNO
Network Virtual Operators for Iu mode	MVNO.MVNO_Name, MVNO.MVNO_Type, MVNO.MVNO_Id, MVNO.Huawei.Iu_Mode_Radio_Resource_with_MVNO.Attached_users (DA), MVNO.Huawei.Iu_Mode_Attach_with_MVNO.GPRS_attach_request, MVNO.Huawei.Iu_Mode_Attach_with_MVNO.GPRS_attach_accept, MVNO.Huawei.Iu_Mode_Attach_with_MVNO._%_GPRS_attach_accept, MVNO.Huawei.Iu_Mode_Attach_with_MVNO.Combined_attach_request, MVNO.Huawei.Iu_Mode_Attach_with_MVNO.Combined_attach_accept, MVNO.Huawei.Iu_Mode_Attach_with_MVNO._%_Combined_attach_accept, MVNO.Huawei.Iu_Mode_PDP_Context_Activation_with_MVNO.MS_init_PDP_context_act, MVNO.Huawei.Iu_Mode_PDP_Context_Activation_with_MVNO.MS_init_PDP_context_act_success, MVNO.Huawei.Iu_Mode_PDP_Context_Activation_with_MVNO.MS_init_PDP_context_act_reject, MVNO.Huawei.Iu_Mode_SM_Resource_with_MVNO.Activated_PDP, MVNO.Huawei.Iu_Mode_SM_Resource_with_MVNO.Avg_act_PDP_Sessions_interactive, MVNO.Huawei.Iu_Mode_SM_Resource_with_MVNO.Avg_act_PDP_Sessions_conversation, MVNO.Huawei.Iu_Mode_SM_Resource_with_MVNO.Avg_act_PDP_Sessions_streaming,

	MVNO.Huawei.Iu_Mode_SM_Resource_with_MVNO.Avg_act_PDP_Sessions_background

9.9 NSVC Reports.

This section shows reports for the NSVC object.

- Messages and packets traffic graph

9.9.1 Messages and packets traffic graph

This graph shows the traffic packets and BLOCK/UNBLOCK messages for a selected "NSVC". The display consists of three graphs for the selected day.

Report Feature	Details
Report Tree Branch	System.GPRS.Engineering.CN.Huawei.NSVC
Primary Object	NSVC
BLOCK messages sent and received	NSVC.Huawei.NS_with_Specific_NSVC.NS_block_msg, NSVC.Huawei.NS_with_Specific_NSVC.NS_block_ack_msg
DL and UL Data packets from/to FR	NSVC.Huawei.NS_with_Specific_NSVC.DL_and_UL_pkts, NSVC.Huawei.NS_with_Specific_NSVC.DL_and_UL_pkts_discarded
UNBLOCK messages sent and received	NSVC.Huawei.NS_with_Specific_NSVC.NS_unblock_msg, NSVC.Huawei.NS_with_Specific_NSVC.NS_unblock_ack_msg

9.10 Routing_Area Reports.

This section shows reports for the Routing_Area object.

- Gb paging, attach and detach report
- Iu paging, attach and detach report
- SM Performance for specific Routing Area

9.10.1 Gb paging, attach and detach report

This report shows the "Routing Area for Gb link" performance.

Report Feature	Details

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Report Tree Branch	System.GPRS.Engineering.CN.Huawei.Routing_Area
Primary Object	Routing_Area
Routing Area for Gb link	Routing_Area.Routing_Area_Id, Routing_Area.SGSN_Id, Routing_Area.LAC_Id, Routing_Area.Huawei.Gb_Mode_Radio_Resource_with_RAI.Attached_user (DA), Routing_Area.Huawei.Gb_Mode_Radio_Resource_with_RAI.Attached_Max_user, Routing_Area.Huawei.Gb_Mode_Paging_with_RAI.Pkt_paging_request, Routing_Area.Huawei.Gb_Mode_Paging_with_RAI.Pkt_paging_fail, Routing_Area.Huawei.Gb_Mode_Attach_with_RAI.GPRS_attach_request, Routing_Area.Huawei.Gb_Mode_Attach_with_RAI._%_GPRS_attach_accept, Routing_Area.Huawei.Gb_Mode_Attach_with_RAI.Com_attach_request, Routing_Area.Huawei.Gb_Mode_Attach_with_RAI._%_Com_attach_accept, Routing_Area.Huawei.Gb_Mode_Attach_with_RAI.GPRS_attach_req_while_IMSI_attached, Routing_Area.Huawei.Gb_Mode_Attach_with_RAI.GPRS_attach_acc_while_IMSI_attached, Routing_Area.Huawei.Gb_Mode_Detach_with_RAI.SGSN_init_detach_request, Routing_Area.Huawei.Gb_Mode_Detach_with_RAI.Successful_of_SGSN_init_detach, Routing_Area.Huawei.Gb_Mode_Detach_with_RAI.MS_init_combined_detach_request

9.10.2 Iu paging, attach and detach report

This report shows the "Routing Area for IU link" performance.

Report Feature	Details
Report Tree Branch	System.GPRS.Engineering.CN.Huawei.Routing_Area
Primary Object	Routing_Area
Routing Area for IU link	Routing_Area.Routing_Area_Id, Routing_Area.SGSN_Id, Routing_Area.LAC_Id, Routing_Area.Huawei.Iu_Mode_Radio_Resource_with_RAI.Attached_user (DA), Routing_Area.Huawei.Iu_Mode_Radio_Resource_with_RAI.Attached_Max_user, Routing_Area.Huawei.Iu_Mode_Paging_with_RAI.Pkt_paging_reque

	st, Routing_Area.Huawei.Iu_Mode_Paging_with_RAI.Pkt_paging_fail, Routing_Area.Huawei.Iu_Mode_Attach_with_RAI.GPRS_attach_request, Routing_Area.Huawei.Iu_Mode_Attach_with_RAI._ %_GPRS_attach_success, Routing_Area.Huawei.Iu_Mode_Attach_with_RAI.Com_attach_request, Routing_Area.Huawei.Iu_Mode_Attach_with_RAI._ %_Com_attach_accept, Routing_Area.Huawei.Iu_Mode_Attach_with_RAI.GPRS_attach_aft_IMSI_att_request, Routing_Area.Huawei.Iu_Mode_Attach_with_RAI.GPRS_attach_suc_after_IMSI_att, Routing_Area.Huawei.Iu_Mode_Detach_with_RAI.SGSN_init_detach_request, Routing_Area.Huawei.Iu_Mode_Detach_with_RAI.SGSN_init_detach_success, Routing_Area.Huawei.Iu_Mode_Detach_with_RAI.MS_init_com_detach_request

9.10.3 SM Performance for specific Routing Area

This report shows the performance of specific Routing Area.

Report Feature	Details
Report Tree Branch	System.GPRS.Engineering.CN.Huawei.Routing_Area
Primary Object	Routing_Area
PDP Context Activation 2G	Routing_Area.Routing_Area_Id, Routing_Area.SGSN_Id, Routing_Area.LAC_Id, Routing_Area.Huawei.Specific_Routing_Area_SM_2G._ %_MS_init_PDP_act_succ, Routing_Area.Huawei.Specific_Routing_Area_SM_2G._ %_MS_init_Sec_PDP_succ, Routing_Area.Huawei.Specific_Routing_Area_SM_2G._ %_all_MS_init_PDP_succ
PDP Context Activation & Modification 3G	Routing_Area.Routing_Area_Id, Routing_Area.SGSN_Id, Routing_Area.LAC_Id, Routing_Area.Huawei.Specific_Routing_Area_SM_3G._ %_MS_init_PDP_act_succ, Routing_Area.Huawei.Specific_Routing_Area_SM_3G._

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	%_MS_init_sec_PDP_act_succ, Routing_Area.Huawei.Specific_Routing_Area_SM_3G._ %_all_MS_init_PDP_act_succ, Routing_Area.Huawei.Specific_Routing_Area_SM_3G._ %_NET_init_PDP_act_succ, Routing_Area.Huawei.Specific_Routing_Area_SM_3G._ %_SGSN_init_PDP_mod_succ, Routing_Area.Huawei.Specific_Routing_Area_SM_3G._ %_GGSN_init_PDP_mod_succ, Routing_Area.Huawei.Specific_Routing_Area_SM_3G._ %_RNC_init_PDP_mod_succ, Routing_Area.Huawei.Specific_Routing_Area_SM_3G._ %_all_NET_init_PDP_mod_succ
PDP Context Activation Failures 2G	Routing_Area.Routing_Area_Id, Routing_Area.SGSN_Id, Routing_Area.LAC_Id, Routing_Area.Huawei.Specific_Routing_Area_SM_2G._ %_all_MS_init_PDP_succ, Routing_Area.Huawei.Specific_Routing_Area_SM_2G._2G_MS_totally_init_PDP_fail, Routing_Area.Huawei.Specific_Routing_Area_SM_2G.PDP_context_act_fail_user_auth_fail, Routing_Area.Huawei.Specific_Routing_Area_SM_2G.PDP_context_act_fail_unkown_PDP, Routing_Area.Huawei.Specific_Routing_Area_SM_2G.PDP_context_act_fail_missing_APN, Routing_Area.Huawei.Specific_Routing_Area_SM_2G.PDP_context_act_fail_service_unsupp, Routing_Area.Huawei.Specific_Routing_Area_SM_2G.PDP_context_act_fail_service_unsubs

9.11 SGSN Reports.

This section shows reports for the SGSN object.

- BSSGP packets traffic report
- CAMEL report
- CDRs overview report
- FR packets traffic report
- Gb PDP activation and deactivation report
- Gn PDP context activation graph
- Gn traffic per QoS class report
- Gp traffic per QoS class report
- GTP-C messages and data traffic graph
- GTP-C messages and data traffic report
- GTP IP V4 traffic report

- GTP IP V6 traffic report
- GTP-U Bearer packets traffic report
- Iu PDP context activation graph
- LCS report
- LLC traffic report
- MBMS Broadcast Session report
- MM resource report
- RANAP report
- SCCP availability and performance report
- SM resource report
- SMS in Gb report
- SMS in Iu report
- SMS report
- SNDCP frames traffic report
- Unknown traffic per QoS class report

9.11.1 BSSGP packets traffic report

This report shows the "BSSGP layer" performance.

Report Feature	Details
Report Tree Branch	System.GPRS.Engineering.CN.Huawei.SGSN
Primary Object	SGSN
BSSGP layer	SGSN.SGSN_Id, SGSN.SGSN_Name, SGSN.Huawei.SGSN_BSSGP.BSSGP_data_pkts_sent_to_NS (DA), SGSN.Huawei.SGSN_BSSGP.BSSGP_data_pkts_rec_from_NS, SGSN.Huawei.SGSN_BSSGP.BSSGP_data_pkts_sent_to_LLC, SGSN.Huawei.SGSN_BSSGP.BSSGP_data_pkts_rec_from_LLC, SGSN.Huawei.SGSN_BSSGP.BSSGP_UL_data_pkts_dropped, SGSN.Huawei.SGSN_BSSGP.BSSGP_DL_data_pkts_dropped, SGSN.Huawei.SGSN_BSSGP.BSSGP_reset_PDUs_sent_to_BSS, SGSN.Huawei.SGSN_BSSGP.BSSGP_reset_PDUs_rec_from_BSS, SGSN.Huawei.SGSN_BSSGP.BSSGP_status_PDUs_sent_to_BSS, SGSN.Huawei.SGSN_BSSGP.BSSGP_status_PDUs_rec_from_BSS

9.11.2 CAMEL report

This report shows the "CAMEL" performance.

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Report Feature	Details
Report Tree Branch	System.GPRS.Engineering.CN.Huawei.SGSN
Primary Object	SGSN
CAMEL	SGSN.SGSN_Id, SGSN.SGSN_Name, SGSN.Huawei.CAMEL.SGSN_init_TCAP_dialogues, SGSN.Huawei.CAMEL.SGSN_rec_TCAP_dialogues, SGSN.Huawei.CAMEL.Average_duration_of_per_TCAP_dialogues (DA), SGSN.Huawei.CAMEL.ApplyChargingReportGPRS_oper_sent, SGSN.Huawei.CAMEL.ApplyChargingGPRS_oper_rec, SGSN.Huawei.CAMEL.Total_operations_rec, SGSN.Huawei.CAMEL.Total_operations_sent, SGSN.Huawei.CAMEL.Invalid_operations_rec, SGSN.Huawei.CAMEL.InitialDPGPRS_oper_sent, SGSN.Huawei.CAMEL.ContinueGPRS_oper_rec

9.11.3 CDRs overview report

This report shows the "CDRs generated" performance

Report Feature	Details
Report Tree Branch	System.GPRS.Engineering.CN.Huawei.SGSN
Primary Object	SGSN
CDRs generated	SGSN.SGSN_Id, SGSN.SGSN_Name, SGSN.Huawei.SGSN_CDR.S_CDRs_generated (DA), SGSN.Huawei.SGSN_CDR._%_S_CDRs_generated_fail, SGSN.Huawei.SGSN_CDR.M_CDRs_generated, SGSN.Huawei.SGSN_CDR._%_M_CDRs_generated_fail, SGSN.Huawei.SGSN_CDR.S_SMO_CDRs_generated, SGSN.Huawei.SGSN_CDR._%_S_SMO_CDRs_generated_fail, SGSN.Huawei.SGSN_CDR.S_SMT_CDRs_generated, SGSN.Huawei.SGSN_CDR._%_S_SMT_CDRs_generated_fail, SGSN.Huawei.SGSN_CDR.LCS_MO_CDRs_generated, SGSN.Huawei.SGSN_CDR._%_LCS_MO_CDRs_generated_fail, SGSN.Huawei.SGSN_CDR.LCS_MT_CDRs_generated, SGSN.Huawei.SGSN_CDR._%_LCS_MT_CDRs_generated_fail, SGSN.Huawei.SGSN_CDR.LCS_NI_CDRs_generated, SGSN.Huawei.SGSN_CDR._%_LCS_NI_CDRs_generated_fail

9.11.4 FR packets traffic report

This report shows the "FR layer" performance

Report Feature	Details
Report Tree Branch	System.GPRS.Engineering.CN.Huawei.SGSN
Primary Object	SGSN
FR layer	SGSN.SGSN_Id, SGSN.SGSN_Name, SGSN.Huawei.SGSN_FR.FR_DL_data_pkts_sent (DA), SGSN.Huawei.SGSN_FR.FR_DL_data_pkts_dropped, SGSN.Huawei.SGSN_FR.FR_pkts_DL_resent, SGSN.Huawei.SGSN_FR.FR_pkts_dropped_by_FR_when_resent, SGSN.Huawei.SGSN_FR.FR_correct_UL_data_pkts_rec, SGSN.Huawei.SGSN_FR.FR_error_UL_data_pkts_rec, SGSN.Huawei.SGSN_FR.FR_correct_UL_signalling_pkts_rec, SGSN.Huawei.SGSN_FR.FR_error_UL_signalling_pkts_rec

9.11.5 Gb PDP activation and deactivation report

This report shows the "PDP context for Gb link" performance.

Report Feature	Details
Report Tree Branch	System.GPRS.Engineering.CN.Huawei.SGSN
Primary Object	SGSN
PDP context for Gb link	SGSN.SGSN_Id, SGSN.SGSN_Name, SGSN.Huawei.Gb_Mode_PDP_Context_Activation.MS_init_PDP_context_act (DA), SGSN.Huawei.Gb_Mode_PDP_Context_Activation.MS_init_PDP_context_act_success, SGSN.Huawei.Gb_Mode_PDP_Context_Activation._%_MS_init_PDP_context_act_success, SGSN.Huawei.Gb_Mode_PDP_Context_Deactivation.MS_init_PDP_context_deact, SGSN.Huawei.Gb_Mode_PDP_Context_Deactivation.MS_init_PDP_context_deact_success, SGSN.Huawei.Gb_Mode_PDP_Context_Deactivation._%_MS_init_PDP_context_deact_success, SGSN.Huawei.Gb_Mode_PDP_Context_Activation.Network_init_PDP_context_act, SGSN.Huawei.Gb_Mode_PDP_Context_Activation.Network_init_PDP_context_act_suc,

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	SGSN.Huawei.Gb_Mode_PDP_Context_Activation._ %_Network_init_PDP_context_act_suc, SGSN.Huawei.Gb_Mode_PDP_Context_Deactivation._ %_GGSN_init_PDP_context_deact_success, SGSN.Huawei.Gb_Mode_PDP_Context_Deactivation.SGSN_init_PDP_context_deact, SGSN.Huawei.Gb_Mode_PDP_Context_Deactivation.SGSN_init_PDP_context_deact_success, SGSN.Huawei.Gb_Mode_PDP_Context_Deactivation._ %_SGSN_init_PDP_context_deact_success, SGSN.Huawei.Gb_Mode_PDP_Context_Activation.MS_init_PDP_act_with_dynamic_addr, SGSN.Huawei.Gb_Mode_PDP_Context_Activation.MS_init_PDP_act_suc_with_dynamic_addr, SGSN.Huawei.Gb_Mode_PDP_Context_Activation._ %_MS_init_PDP_act_suc_with_dynamic_addr, SGSN.Huawei.Gb_Mode_PDP_Context_Activation.PDP_context_reject, SGSN.Huawei.Gb_Mode_PDP_Context_Activation.Foreign_subs_act_PDP_context_req, SGSN.Huawei.Gb_Mode_PDP_Context_Activation.Foreign_subs_act_PDP_context_acc, SGSN.Huawei.Gb_Mode_PDP_Context_Activation.Foreign_subs_act_PDP_context_reject

9.11.6 Gn PDP context activation graph

This graph shows the "Gn mode PDP context activation" performance for a selected "SGSN". The display consists of three graphs for the selected day.

Report Feature	Details
Report Tree Branch	System.GPRS.Engineering.CN.Huawei.SGSN
Primary Object	SGSN
MS init PDP	SGSN.Huawei.Gb_Mode_PDP_Context_Activation.MS_init_PDP_context_act, SGSN.Huawei.Gb_Mode_PDP_Context_Activation._ %_MS_init_PDP_context_act_success
Network init PDP	SGSN.Huawei.Gb_Mode_PDP_Context_Activation.Network_init_PDP_context_act, SGSN.Huawei.Gb_Mode_PDP_Context_Activation._ %_Network_init_PDP_context_act_suc
PDP rejected	SGSN.Huawei.Gb_Mode_PDP_Context_Activation.PDP_context_reject

9.11.7 Gn traffic per QoS class report

This report shows the "QoS class for the Gn link" performance.

Report Feature	Details
Report Tree Branch	System.GPRS.Engineering.CN.Huawei.SGSN
Primary Object	SGSN
QoS class for the Gn link	SGSN.SGSN_Id, SGSN.SGSN_Name, SGSN.Huawei.GTPU_Gn_Interface.GTPU_pkts_rec_by_SGSN_on_Gn (DA), SGSN.Huawei.GTPU_Gn_Interface.GTPU_pkts_discarded_by_SGSN_on_Gn, SGSN.Huawei.GTPU_Gn_Interface.Pkts_of_DL_conv_class_on_Gn, SGSN.Huawei.GTPU_Gn_Interface.Pkts_of_DL_streaming_class_on_Gn, SGSN.Huawei.GTPU_Gn_Interface.Pkts_of_DL_interactive_class_on_Gn, SGSN.Huawei.GTPU_Gn_Interface.Pkts_of_DL_background_class_on_Gn, SGSN.Huawei.GTPU_Gn_Interface.Pkts_of_UL_conv_class_on_Gn, SGSN.Huawei.GTPU_Gn_Interface.Pkts_of_UL_streaming_class_on_Gn, SGSN.Huawei.GTPU_Gn_Interface.Pkts_of_UL_interactive_class_on_Gn, SGSN.Huawei.GTPU_Gn_Interface.Pkts_of_UL_background_class_on_Gn, SGSN.Huawei.GTPU_Gn_Interface.QoS1_pkts_dropped_due_queue_overflow_Gn, SGSN.Huawei.GTPU_Gn_Interface.QoS2_pkts_dropped_due_queue_overflow_Gn, SGSN.Huawei.GTPU_Gn_Interface.QoS3_pkts_dropped_due_queue_overflow_Gn, SGSN.Huawei.GTPU_Gn_Interface.QoS4_pkts_dropped_due_queue_overflow_Gn

9.11.8 Gp traffic per QoS class report

This report shows the "QoS class for the Gp link" performance.

Report Feature	Details

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Report Tree Branch	System.GPRS.Engineering.CN.Huawei.SGSN
Primary Object	SGSN
QoS class for the Gp link	SGSN.SGSN_Id, SGSN.SGSN_Name, SGSN.Huawei.GTPU_Gp_Interface.GTPU_pkts_rec_by_SGSN_on_Gp, SGSN.Huawei.GTPU_Gp_Interface.GTPU_pkts_discarded_by_SGSN_on_Gp, SGSN.Huawei.GTPU_Gp_Interface.Pkts_of_DL_conv_class_on_Gp, SGSN.Huawei.GTPU_Gp_Interface.Pkts_of_DL_streaming_class_on_Gp, SGSN.Huawei.GTPU_Gp_Interface.Pkts_of_DL_interactive_class_on_Gp, SGSN.Huawei.GTPU_Gp_Interface.Pkts_of_DL_background_class_on_Gp, SGSN.Huawei.GTPU_Gp_Interface.Pkts_of_UL_conv_class_on_Gp, SGSN.Huawei.GTPU_Gp_Interface.Pkts_of_UL_streaming_class_on_Gp, SGSN.Huawei.GTPU_Gp_Interface.Pkts_of_UL_interactive_class_on_Gp, SGSN.Huawei.GTPU_Gp_Interface.Pkts_of_UL_background_class_on_Gp, SGSN.Huawei.GTPU_Gp_Interface.QoS1_pkts_dropped_due_queue_overflow_Gp, SGSN.Huawei.GTPU_Gp_Interface.QoS2_pkts_dropped_due_queue_overflow_Gp, SGSN.Huawei.GTPU_Gp_Interface.QoS3_pkts_dropped_due_queue_overflow_Gp, SGSN.Huawei.GTPU_Gp_Interface.QoS4_pkts_dropped_due_queue_overflow_Gp

9.11.9 GTP-C messages and data traffic graph

This graph shows the GTP-C performance for a selected "SGSN". The display consists of three graphs for the selected day.

Report Feature	Details
Report Tree Branch	System.GPRS.Engineering.CN.Huawei.SGSN
Primary Object	SGSN
GTP-C Message packets	SGSN.Huawei.GTP_Message_Processing.GTP_C_Message_pkts_rec, SGSN.Huawei.GTP_Message_Processing.GTP_C_Message_pkts_sent
GTP-C data packets	SGSN.Huawei.GTP_Message_Processing.GTP_C_data_pkts_rec,

	SGSN.Huawei.GTP_Message_Processing.GTP_C_data_pkts_sent
Session messages packets	SGSN.Huawei.GTP_Message_Processing.Session_msg_pkts_rec, SGSN.Huawei.GTP_Message_Processing.Session_msg_pkts_sent

9.11.10GTP-C messages and data traffic report

This report shows the "GTP traffic" performance.

Report Feature	Details
Report Tree Branch	System.GPRS.Engineering.CN.Huawei.SGSN
Primary Object	SGSN
GTP traffic	SGSN.SGSN_Id, SGSN.SGSN_Name, SGSN.Huawei.GTP_Message_Processing.GTP_C_Message_pkts_rec (DA), SGSN.Huawei.GTP_Message_Processing.GTP_C_Message_pkts_sent, SGSN.Huawei.GTP_Message_Processing.GTP_C_data_pkts_rec, SGSN.Huawei.GTP_Message_Processing.GTP_C_data_pkts_sent, SGSN.Huawei.GTP_Message_Processing.Mobile_management_msg_pkts_rec, SGSN.Huawei.GTP_Message_Processing.Mobile_management_msg_pkts_sent, SGSN.Huawei.GTP_Message_Processing.Location_management_msg_pkts_rec, SGSN.Huawei.GTP_Message_Processing.Location_management_msg_pkts_sent, SGSN.Huawei.GTP_Message_Processing.Path_management_msg_pkts_rec, SGSN.Huawei.GTP_Message_Processing.Path_management_msg_pkts_sent, SGSN.Huawei.GTP_Message_Processing.GTP_SGSN_Context_requests_rec, SGSN.Huawei.GTP_Message_Processing.GTP_SGSN_Context_Requests_sent, SGSN.Huawei.GTP_Message_Processing.GTP_SGSN_Context_Responses_rec, SGSN.Huawei.GTP_Message_Processing.GTP_SGSN_Context_Responses_sent, SGSN.Huawei.GTP_Message_Processing.GTP_SGSN_Context_Acknowledges_rec,

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	SGSN.Huawei.GTP_Message_Processing.GTP_SGSN_Context_Acknowledges_sent

9.11.11GTP IP V4 traffic report

This report shows the "Traffic with specific Gn IP V4" performance.

Report Feature	Details
Report Tree Branch	System.GPRS.Engineering.CN.Huawei.SGSN
Primary Object	SGSN
Traffic with specific Gn IP V4	SGSN.SGSN_Id, SGSN.SGSN_Name, GnGp_IPV4.Huawei.Gn_Traffic_with_Specific_Gn_IP.SGSN_GTP_Mean_sent_Throughput (DA), GnGp_IPV4.Huawei.Gn_Traffic_with_Specific_Gn_IP.SGSN_GTP_Mean_rec_Throughput, GnGp_IPV4.Huawei.Gn_Traffic_with_Specific_Gn_IP.SGSN_GTP_Mean_Throughput, GnGp_IPV4.Huawei.Gn_Traffic_with_Specific_Gn_IP.SGSN_GTP_Peak_sent_Throughput, GnGp_IPV4.Huawei.Gn_Traffic_with_Specific_Gn_IP.SGSN_GTP_Peak_rec_Throughput, GnGp_IPV4.Huawei.Gn_Traffic_with_Specific_Gn_IP.SGSN_GTP_Peak_Throughput, GnGp_IPV4.Huawei.Gn_Traffic_with_Specific_Gn_IP.SGSN_GTP_Mean_sent_pkts, GnGp_IPV4.Huawei.Gn_Traffic_with_Specific_Gn_IP.SGSN_GTP_Mean_rec_pkts, GnGp_IPV4.Huawei.Gn_Traffic_with_Specific_Gn_IP.SGSN_GTP_Mean_pkts, GnGp_IPV4.Huawei.Gn_Traffic_with_Specific_Gn_IP.SGSN_GTP_Peak_sent_pkts, GnGp_IPV4.Huawei.Gn_Traffic_with_Specific_Gn_IP.SGSN_GTP_Peak_rec_pkts, GnGp_IPV4.Huawei.Gn_Traffic_with_Specific_Gn_IP.SGSN_GTP_Peak_pkts

9.11.12GTP IP V6 traffic report

This report shows the "Traffic with specific Gn IP V6" performance.

Report Feature	Details
Report Tree Branch	System.GPRS.Engineering.CN.Huawei.SGSN

Primary Object	SGSN
Traffic with specific Gn IP V6	SGSN.SGSN_Id, SGSN.SGSN_Name, GnGp_IPV6.Huawei.Gn_Traffic_with_Specific_Gn_IPV6.SGSN_GTP_Mean_sent_Throughput_IPV6 (DA), GnGp_IPV6.Huawei.Gn_Traffic_with_Specific_Gn_IPV6.SGSN_GTP_Mean_rec_Throughput_IPV6, GnGp_IPV6.Huawei.Gn_Traffic_with_Specific_Gn_IPV6.SGSN_GTP_Mean_Throughput_IPV6, GnGp_IPV4.Huawei.Gn_Traffic_with_Specific_Gn_IP.SGSN_GTP_Peak_sent_Throughput, GnGp_IPV4.Huawei.Gn_Traffic_with_Specific_Gn_IP.SGSN_GTP_Peak_rec_Throughput, GnGp_IPV4.Huawei.Gn_Traffic_with_Specific_Gn_IP.SGSN_GTP_Peak_Throughput, GnGp_IPV4.Huawei.Gn_Traffic_with_Specific_Gn_IP.SGSN_GTP_Mean_sent_pkts, GnGp_IPV4.Huawei.Gn_Traffic_with_Specific_Gn_IP.SGSN_GTP_Mean_rec_pkts, GnGp_IPV4.Huawei.Gn_Traffic_with_Specific_Gn_IP.SGSN_GTP_Mean_pkts, GnGp_IPV4.Huawei.Gn_Traffic_with_Specific_Gn_IP.SGSN_GTP_Peak_sent_pkts, GnGp_IPV4.Huawei.Gn_Traffic_with_Specific_Gn_IP.SGSN_GTP_Peak_rec_pkts, GnGp_IPV4.Huawei.Gn_Traffic_with_Specific_Gn_IP.SGSN_GTP_Peak_pkts

9.11.13GTP-U Bearer packets traffic report

This report shows the "GTP-U Bearer" performance.

Report Feature	Details
Report Tree Branch	System.GPRS.Engineering.CN.Huawei.SGSN
Primary Object	SGSN
GTP-U Bearer	SGSN.SGSN_Id, SGSN.SGSN_Name, SGSN.Huawei.GTPU_Bearer.Pkts_rec (DA), SGSN.Huawei.GTPU_Bearer.Pkts_sent, SGSN.Huawei.GTPU_Bearer.DL_pkts_discarded, SGSN.Huawei.GTPU_Bearer.UL_pkts_discarded,

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	SGSN.Huawei.GTPU_Bearer.IP_pkts_rec, SGSN.Huawei.GTPU_Bearer.GTP_pkts_rec_from_GGSN, SGSN.Huawei.GTPU_Bearer.GTP_pkts_sent_to_GGSN, SGSN.Huawei.GTPU_Bearer.UL_data_kbytes_rec_from_SNDCP, SGSN.Huawei.GTPU_Bearer.DL_data_pkts_sent_to_SNDCP, SGSN.Huawei.GTPU_Bearer.UL_data_kbytes_rec_from_RNC, SGSN.Huawei.GTPU_Bearer.DL_data_pkts_sent_to_RNC, SGSN.Huawei.GTPU_Bearer.SNDCP_pkts_GTP_rec_from_SNDCP, SGSN.Huawei.GTPU_Bearer.SNDCP_pkts_GTP_sent_to_SNDCP

9.11.14Iu PDP context activation graph

This graph shows the "Iu mode PDP context activation" performance for a selected "SGSN". The display consists of three graphs for the selected day.

Report Feature	Details
Report Tree Branch	System.GPRS.Engineering.CN.Huawei.SGSN
Primary Object	SGSN
MS init PDP	SGSN.Huawei.Iu_Mode_PDP_Context_Activation.MS_init_PDP_context_act, SGSN.Huawei.Iu_Mode_PDP_Context_Activation._%_MS_init_PDP_context_act_suc
Network init PDP	SGSN.Huawei.Iu_Mode_PDP_Context_Activation.Network_init_PDP_context_act, SGSN.Huawei.Iu_Mode_PDP_Context_Activation._%_Network_init_PDP_context_act_suc
PDP rejected	SGSN.Huawei.Iu_Mode_PDP_Context_Activation.MS_init_PDP_context_act_reject, SGSN.Huawei.Iu_Mode_PDP_Context_Activation.PDP_context_sec_act_reject

9.11.15LCS report

This report shows the "Location Service" performance.

Report Feature	Details
Report Tree Branch	System.GPRS.Engineering.CN.Huawei.SGSN
Primary Object	SGSN
Location Service	SGSN.SGSN_Id, SGSN.SGSN_Name, SGSN.Huawei.LCS.MS_init_loc_srvc_request (DA), SGSN.Huawei.LCS.MS_init_loc_srvc_success, SGSN.Huawei.LCS._%_MS_init_loc_srvc_success,

	SGSN.Huawei.LCS.MS_terminated_loc_srvc_request, SGSN.Huawei.LCS.MS_terminated_loc_srvc_success, SGSN.Huawei.LCS._%_MS_terminated_loc_srvc_success, SGSN.Huawei.LCS.Network_init_loc_srvc_request, SGSN.Huawei.LCS.Network_init_loc_srvc_success, SGSN.Huawei.LCS._%_Network_init_loc_srvc_success, SGSN.Huawei.LCS.LCS_LDR_request, SGSN.Huawei.LCS.LCS_LDR_permit, SGSN.Huawei.LCS.LCS_LDR_succeed, SGSN.Huawei.LCS.LCS_LDR_fail_normal, SGSN.Huawei.LCS.LCS_LDR_fail_not_normal

9.11.16LLC traffic report

This report shows the "LLC traffic" performance

Report Feature	Details
Report Tree Branch	System.GPRS.Engineering.CN.Huawei.SGSN
Primary Object	SGSN
LLC traffic	SGSN.SGSN_Id, SGSN.SGSN_Name, SGSN.Huawei.SGSN_LLC.LLC_data_pkts_sent_to_BSSGP (DA), SGSN.Huawei.SGSN_LLC.LLC_data_pkts_rec_from_BSSGP, SGSN.Huawei.SGSN_LLC.LLC_signalling_pkts_sent_to_BSSGP, SGSN.Huawei.SGSN_LLC.LLC_signalling_pkts_rec_from_BSSGP, SGSN.Huawei.SGSN_LLC.LLC_data_pkts_sent_to_SNDCP, SGSN.Huawei.SGSN_LLC.LLC_data_pkts_rec_from_SNDCP, SGSN.Huawei.SGSN_LLC.LLC_signalling_pkts_sent_to_SNDCP, SGSN.Huawei.SGSN_LLC.LLC_signalling_pkts_rec_from_L3MM, SGSN.Huawei.SGSN_LLC.LLC_DL_TOM_protocol_env_rec, SGSN.Huawei.SGSN_LLC.LLC_DL_TOM_protocol_env_sent

9.11.17MBMS Broadcast Session report

MBMS Broadcast Session

Report Feature	Details
Report Tree Branch	System.GPRS.Engineering.CN.Huawei.SGSN
Primary Object	SGSN

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MBMS Broadcast report	SGSN.SGSN_Id, SGSN.SGSN_Name, SGSN.Huawei.MBMS_Broadcast_Bearer_Resource.Average_Number_of_MBMS_Broadcast_Bearer_Contexts (DA), SGSN.Huawei.MBMS_Broadcast_Bearer_Resource.Realtime_Number_of_MBMS_Broadcast_Bearer_Contexts, SGSN.Huawei.MBMS_Broadcast_Bearer_Resource.Max_Number_of_MBMS_Broadcast_Bearer_Contexts, SGSN.Huawei.MBMS_Broadcast_Session_Start.Receive_Gn_MBMS_Session_Start_Request (DA), SGSN.Huawei.MBMS_Broadcast_Session_Start.Send_Gn_MBMS_Session_Start_Response_Accept, SGSN.Huawei.MBMS_Broadcast_Session_Start.Send_Gn_MBMS_Session_Start_Response_Reject, SGSN.Huawei.MBMS_Broadcast_Session_Stop.Receive_Gn_MBMS_Session_Stop_Request (DA), SGSN.Huawei.MBMS_Broadcast_Session_Stop.Send_Gn_MBMS_Session_Stop_Response_Accept, SGSN.Huawei.MBMS_Broadcast_Session_Stop.Send_Gn_MBMS_Session_Stop_Response_Reject

9.11.18MM resource report

This report shows the number of attached users in SGSN

Report Feature	Details
Report Tree Branch	System.GPRS.Engineering.CN.Huawei.SGSN
Primary Object	SGSN
Gb Mode Attached Users	SGSN.SGSN_Id, SGSN.SGSN_Name, SGSN.Huawei.Gb_Mode_Radio_Resource.Gb_mode_average_attached_users, SGSN.Huawei.Gb_Mode_Radio_Resource.Gb_mode_max_attached_users, SGSN.Huawei.Gb_Mode_Radio_Resource.Avg_Att_user_homePLMN, SGSN.Huawei.Gb_Mode_Radio_Resource.Max_Att_user_homePLMN, SGSN.Huawei.Gb_Mode_Radio_Resource.Avg_Att_user_connectPLMN, SGSN.Huawei.Gb_Mode_Radio_Resource.Max_Att_user_connectPLMN, SGSN.Huawei.Gb_Mode_Radio_Resource.Realtime_users_at_READY_status
Iu Mode Attached Users	SGSN.SGSN_Id, SGSN.SGSN_Name,

	SGSN.Huawei.Iu_Mode_Radio_Resource.Avg_attached_users, SGSN.Huawei.Iu_Mode_Radio_Resource.Max_attached_users, SGSN.Huawei.Iu_Mode_Radio_Resource.Avg_Atted_users_of_home_PLMN, SGSN.Huawei.Iu_Mode_Radio_Resource.Max_Atted_users_of_home_PLMN, SGSN.Huawei.Iu_Mode_Radio_Resource.Avg_Atted_user_of_connectPLMN, SGSN.Huawei.Iu_Mode_Radio_Resource.Max_Atted_user_of_connectPLMN, SGSN.Huawei.Iu_Mode_Radio_Resource.Avg_users_at_PMM_CONNECTED_status

9.11.19RANAP report

This report shows the "RANAP" performance.

Report Feature	Details
Report Tree Branch	System.GPRS.Engineering.CN.Huawei.SGSN
Primary Object	SGSN
RANAP report	SGSN.SGSN_Id, SGSN.SGSN_Name, SGSN.Huawei.RANAP.Iu_connection_setup_request (DA), SGSN.Huawei.RANAP.Iu_connection_setup_success, SGSN.Huawei.RANAP.CN_init_Iu_interface_reset, SGSN.Huawei.RANAP.CN_init_traffic_control, SGSN.Huawei.RANAP.RNC_init_Iu_interface_reset, SGSN.Huawei.RANAP.RNC_init_traffic_control, SGSN.Huawei.RANAP.Success_Reset_Acknowledge_rec, SGSN.Huawei.RANAP.Success_Reset_Acknowledge_sent, SGSN.Huawei.RANAP.Init_UE_Message_rec, SGSN.Huawei.RANAP.Release_Requests_rec, SGSN.Huawei.RANAP.Release_Command_sent_success, SGSN.Huawei.RANAP.Release_Complete_rec, SGSN.Huawei.RANAP.Relocation_Required_msg_rec, SGSN.Huawei.RANAP.Relocation_Request_msg_sent_success, SGSN.Huawei.RANAP.Relocation_Request_ACKs_rec

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9.11.20SCCP availability and performance report

This report shows the "SCCP availability and utilisation" performance.

Report Feature	Details
Report Tree Branch	System.GPRS.Engineering.CN.Huawei.SGSN
Primary Object	SGSN
SCCP availability and utilisation	SGSN.SGSN_Id, SGSN.SGSN_Name, SGSN.Huawei.SCCP_Availability.Duration_of_local_SCCP_unavail (DA), SGSN.Huawei.SCCP_Availability.Stop_times_of_local_SCCP_unavail, SGSN.Huawei.SCCP_Utilization.Sent_UDTS_message, SGSN.Huawei.SCCP_Utilization.Rec_UDTS_message, SGSN.Huawei.SCCP_Utilization.Total_msg_intended_for_local_subsys, SGSN.Huawei.SCCP_Utilization.Msg_need_global_title_translation, SGSN.Huawei.SCCP_Utilization.Total_msg_handled_by_subsys, SGSN.Huawei.SCCP_Performance.Routing_fail_no_transl_for_addr, SGSN.Huawei.SCCP_Performance.Routing_fail_no_matching_for_addr, SGSN.Huawei.SCCP_Performance.Routing_fail_network_fail, SGSN.Huawei.SCCP_Performance.Routing_fail_network_congestion, SGSN.Huawei.SCCP_Performance.Routing_fail_subsystem_fail, SGSN.Huawei.SCCP_Performance.Routing_fail_unequipment_user, SGSN.Huawei.SCCP_Performance.Routing_fail_reason_unknown, SGSN.Huawei.SCCP_Performance.Parse_error_checked_out

9.11.21SM resource report

This report shows the number of attached users in SGSN

Report Feature	Details
Report Tree Branch	System.GPRS.Engineering.CN.Huawei.SGSN
Primary Object	SGSN
Gb Mode PDP Sessions	SGSN.SGSN_Id, SGSN.SGSN_Name, SGSN.Huawei.Gb_Mode_SM_Resource.Average_users_with_act_PDP_context, SGSN.Huawei.Gb_Mode_SM_Resource.Max_users_with_act_PDP_context, SGSN.Huawei.Gb_Mode_SM_Resource.Average_act_PDP_context, SGSN.Huawei.Gb_Mode_SM_Resource.Max_act_PDP_context, SGSN.Huawei.Gb_Mode_SM_Resource.Average_PDP_act_duration, SGSN.Huawei.Gb_Mode_SM_Resource.Avg_user_with_PDP_onnect PLMN,

	SGSN.Huawei.Gb_Mode_SM_Resource.Gb_avg_act_PDP_of_connectPLMN
Iu Mode PDP Sessions	SGSN.SGSN_Id, SGSN.SGSN_Name, SGSN.Huawei.Iu_Mode_SM_Resource.Avg_users_with_active_PDP_context, SGSN.Huawei.Iu_Mode_SM_Resource.Max_users_with_active_PDP_context, SGSN.Huawei.Iu_Mode_SM_Resource.Avg_active_PDP_context, SGSN.Huawei.Iu_Mode_SM_Resource.Max_active_PDP_context, SGSN.Huawei.Iu_Mode_SM_Resource.Avg_PDP_act_duration
Gb Mode PDP Sessions per QoS Class	SGSN.SGSN_Id, SGSN.SGSN_Name, SGSN.Huawei.Gb_Mode_SM_Resource.Average_act_PDP_context, SGSN.Huawei.Gb_Mode_SM_Resource.Ave_act_PDP_Sessions_interactive, SGSN.Huawei.Gb_Mode_SM_Resource.Ave_act_PDP_Sessions_conversation, SGSN.Huawei.Gb_Mode_SM_Resource.Ave_act_PDP_Sessions_streaming, SGSN.Huawei.Gb_Mode_SM_Resource.Ave_act_PDP_Sessions_background
Iu Mode PDP Sessions per QoS Class	SGSN.SGSN_Id, SGSN.SGSN_Name, SGSN.Huawei.Iu_Mode_SM_Resource.Avg_active_PDP_context, SGSN.Huawei.Iu_Mode_SM_Resource.Avg_act_PDP_Sessions_interactive, SGSN.Huawei.Iu_Mode_SM_Resource.Avg_act_PDP_Sessions_conversation, SGSN.Huawei.Iu_Mode_SM_Resource.Avg_act_PDP_Sessions_streaming, SGSN.Huawei.Iu_Mode_SM_Resource.Avg_act_PDP_Sessions_background

9.11.22SMS in Gb report

SMS traffic in Gb link

Report Feature	Details
Report Tree Branch	System.GPRS.Engineering.CN.Huawei.SGSN
Primary Object	SGSN

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SMS in Gb Link report	SGSN.SGSN_Id, SGSN.SGSN_Name, SGSN.Huawei.SMS_in_Gb.MS_originated_SMS_received (DA), SGSN.Huawei.SMS_in_Gb.MS_originated_SMS_successes, SGSN.Huawei.SMS_in_Gb.MS_originated_SMS_fail_authentication_fail, SGSN.Huawei.SMS_in_Gb.MS_originated_SMS_fail_ciphering_setting_fail, SGSN.Huawei.SMS_in_Gb.MS_originated_SM_fail_MO_service_limitation, SGSN.Huawei.SMS_in_Gb.MS_originated_SM_fail_SM_delivery_fault, SGSN.Huawei.SMS_in_Gb.MS_originated_SM_fail_not_supported_by_device, SGSN.Huawei.SMS_in_Gb.MS_originated_SM_fail_protocol_data_error, SGSN.Huawei.SMS_in_Gb.MS_originated_SM_fail_system_fault, SGSN.Huawei.SMS_in_Gb.MS_received_SM_received, SGSN.Huawei.SMS_in_Gb.MS_received_SM_successes, SGSN.Huawei.SMS_in_Gb.MS_received_SM_fail_illegal_user, SGSN.Huawei.SMS_in_Gb.MS_received_SM_fail_memory_fail, SGSN.Huawei.SMS_in_Gb.MS_received_SM_fail_not_supported_by_device, SGSN.Huawei.SMS_in_Gb.MS_received_SM_fail_protocol_fail, SGSN.Huawei.SMS_in_Gb.MS_received_SM_fail_system_fault, SGSN.Huawei.SMS_in_Gb.MS_received_SM_fail_user_busy, SGSN.Huawei.SMS_in_Gb.MS_received_SM_fail_user_unattached

9.11.23SMS in Iu report

Report Feature	Details
Report Tree Branch	System.GPRS.Engineering.CN.Huawei.SGSN
Primary Object	SGSN
SMS in Iu report	SGSN.SGSN_Id, SGSN.SGSN_Name, SGSN.Huawei.SMS_in_Iu.MS_originated_SMS_received (DA), SGSN.Huawei.SMS_in_Iu.MS_originated_SMS_successes, SGSN.Huawei.SMS_in_Iu.MS_originated_SMS_fail_authentication_fail, SGSN.Huawei.SMS_in_Iu.MS_originated_SMS_fail_ciphering_setting_fail, SGSN.Huawei.SMS_in_Iu.MS_originated_SM_fail_MO_service_limitation, SGSN.Huawei.SMS_in_Iu.MS_originated_SM_fail_SM_delivery_fault,

	SGSN.Huawei.SMS_in_Iu.MS_originated_SM_fail_not_supported_by_device, SGSN.Huawei.SMS_in_Iu.MS_originated_SM_fail_protocol_data_error, SGSN.Huawei.SMS_in_Iu.MS_originated_SM_fail_system_fault, SGSN.Huawei.SMS_in_Iu.MS_received_SM_received, SGSN.Huawei.SMS_in_Iu.MS_received_SM_fail_illegal_user, SGSN.Huawei.SMS_in_Iu.MS_received_SM_fail_memory_fail, SGSN.Huawei.SMS_in_Iu.MS_received_SM_fail_not_supported_by_device, SGSN.Huawei.SMS_in_Iu.MS_received_SM_fail_protocol_fail, SGSN.Huawei.SMS_in_Iu.MS_received_SM_fail_system_fault, SGSN.Huawei.SMS_in_Iu.MS_received_SM_fail_user_unattached, SGSN.Huawei.SMS_in_Iu.MS_received_SM_fail_user_busy

9.11.24SMS report

This report shows the "Short Message Service" performance.

Report Feature	Details
Report Tree Branch	System.GPRS.Engineering.CN.Huawei.SGSN
Primary Object	SGSN
Short Message Service	SGSN.SGSN_Id, SGSN.SGSN_Name, SGSN.Huawei.SMS.MS_originated_SMS_attempts (DA), SGSN.Huawei.SMS.MS_originated_SMS_successes, SGSN.Huawei.SMS._%_MS_originated_SMS_successes, SGSN.Huawei.SMS.MS_rec_SM_attempts, SGSN.Huawei.SMS.MS_rec_SM_successes, SGSN.Huawei.SMS._%_MS_rec_SM_successes, SGSN.Huawei.SMS.Notifications_due_MS_re_presence, SGSN.Huawei.SMS.Notifications_MS_mem_avail, SGSN.Huawei.SMS.L3_SMS_signalling_amount_rec, SGSN.Huawei.SMS.L3_SMS_signalling_amount_sent, SGSN.Huawei.SMS.CAMEL_user_requests_for_SM_origin, SGSN.Huawei.SMS.CAMEL_user_success_in_SM_origin, SGSN.Huawei.SMS._%_CAMEL_user_success_in_SM_origin, SGSN.Huawei.SMS.Num_of_Forwarded_bytes_for_MO_SMS, SGSN.Huawei.SMS.Num_of_Forwarded_bytes_for_MT_SMS

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9.11.25SNDCP frames traffic report

This report shows the "SNDCP layer" performance.

Report Feature	Details
Report Tree Branch	System.GPRS.Engineering.CN.Huawei.SGSN
Primary Object	SGSN
SNDCP layer	SGSN.SGSN_Id, SGSN.SGSN_Name, SGSN.Huawei.SGSN_SNDCP.SNDCP_data_pkts_sent_to_GTP (DA), SGSN.Huawei.SGSN_SNDCP.SNDCP_data_pkts_rec_from_GTP, SGSN.Huawei.SGSN_SNDCP.SNDCP_data_pkts_sent_to_LLC, SGSN.Huawei.SGSN_SNDCP.SNDCP_data_pkts_rec_from_LLC, SGSN.Huawei.SGSN_SNDCP.SNDCP_UL_data_pkts_dropped, SGSN.Huawei.SGSN_SNDCP.SNDCP_DL_data_pkts_dropped, SGSN.Huawei.SGSN_SNDCP.Avg_PDP_context_usg_protocol_compr, SGSN.Huawei.SGSN_SNDCP.Avg_PDP_context_usg_data_compr

9.11.26Unknown traffic per QoS class report

This report shows the "QoS class for the unknown link" performance

Report Feature	Details
Report Tree Branch	System.GPRS.Engineering.CN.Huawei.SGSN
Primary Object	SGSN
QoS class for the unknown link	SGSN.SGSN_Id, SGSN.SGSN_Name, SGSN.Huawei.GTPU_Unknown_Interface.GTPU_pkts_rec_by_SGSN (DA), SGSN.Huawei.GTPU_Unknown_Interface.GTPU_pkts_discarded_by_SGSN, SGSN.Huawei.GTPU_Unknown_Interface.Pkts_of_DL_conv_class, SGSN.Huawei.GTPU_Unknown_Interface.Pkts_of_the_DL_streaming_class, SGSN.Huawei.GTPU_Unknown_Interface.Pkts_of_DL_interactive_class, SGSN.Huawei.GTPU_Unknown_Interface.Pkts_of_DL_background_class, SGSN.Huawei.GTPU_Unknown_Interface.Pkts_of_UL_conv_class, SGSN.Huawei.GTPU_Unknown_Interface.Pkts_of_UL_streaming_class, SGSN.Huawei.GTPU_Unknown_Interface.Pkts_of_UL_interactive_class,

	SGSN.Huawei.GTPU_Unknown_Interface.Pkts_of_UL_background_class, SGSN.Huawei.GTPU_Unknown_Interface.QoS1_pkts_drop_due_queue_overflow_UIF, SGSN.Huawei.GTPU_Unknown_Interface.QoS2_pkts_drop_due_queue_overflow_UIF, SGSN.Huawei.GTPU_Unknown_Interface.QoS3_pkts_drop_due_queue_overflow_UIF, SGSN.Huawei.GTPU_Unknown_Interface.QoS4_pkts_drop_due_queue_overflow_UIF

9.12 SGSN_Board Reports.

This section shows reports for the SGSN_Board object.

- CPU and memory utilisation graph
- CPU and memory utilisation report

9.12.1 CPU and memory utilisation graph

This graph shows the "Board CPU utilisation" performance for a selected "SGSN Board". The display consists of three graphs for the selected day.

Report Feature	Details
Report Tree Branch	System.GPRS.Engineering.CN.Huawei.SGSN_Board
Primary Object	SGSN_Board
CPU occupation	SGSN_Board.Huawei.SGSN_Resource.Avg_CPU_occupation_ratio
Congestion and overload duration	SGSN_Board.Huawei.SGSN_Resource.CPU_overload_duration, SGSN_Board.Huawei.SGSN_Resource.CPU_congestion_duration
Message cache & dynamic memory utilisation	SGSN_Board.Huawei.SGSN_Resource.Avg_message_cache_area_util_ratio, SGSN_Board.Huawei.SGSN_Resource.Avg_dynamic_memory_util_ratio

9.12.2 CPU and memory utilisation report

This report shows the "Board CPU utilisation" performance.

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Report Feature	Details
Report Tree Branch	System.GPRS.Engineering.CN.Huawei.SGSN_Board
Primary Object	SGSN_Board
Board CPU utilisation	SGSN_Board.SGSN_Board_Id, SGSN_Board.SGSN_Id, SGSN_Board.Huawei.SGSN_Resource.Avg_CPU_occupation_ratio (DA), SGSN_Board.Huawei.SGSN_Resource.Avg_message_cache_area_util_ratio, SGSN_Board.Huawei.SGSN_Resource.Avg_dynamic_memory_util_ratio, SGSN_Board.Huawei.SGSN_Resource.CPU_overload_times, SGSN_Board.Huawei.SGSN_Resource.CPU_overload_duration, SGSN_Board.Huawei.SGSN_Resource.CPU_congestion_times, SGSN_Board.Huawei.SGSN_Resource.CPU_congestion_duration

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