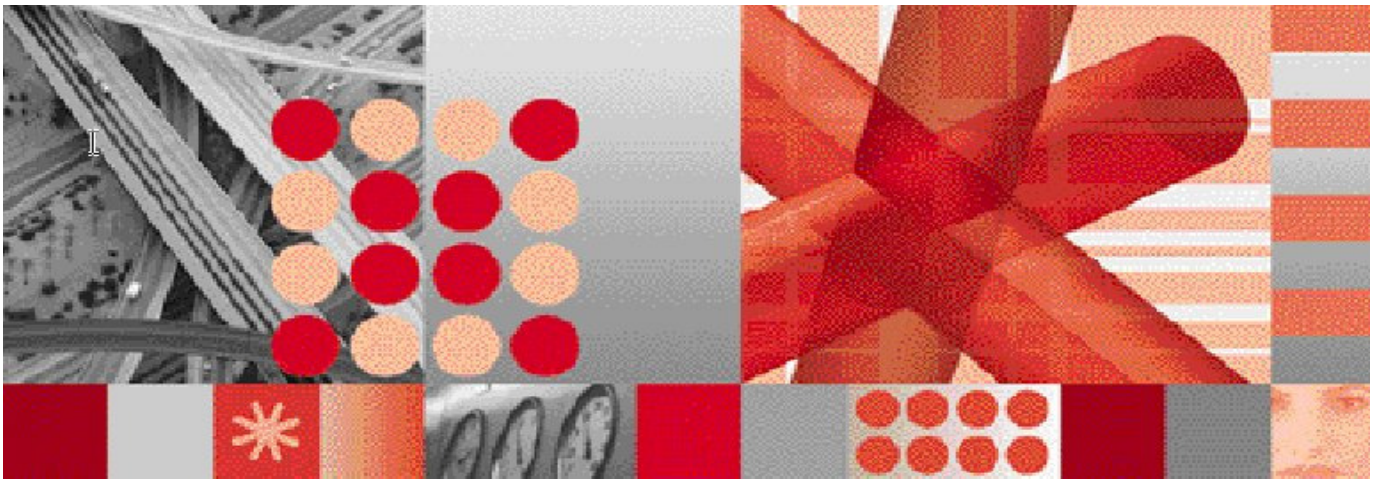
Tivoli. Netcool® Performance Manager for Wireless

IBM



PRODUCT REQUIREMENTS SPECIFICATION

UMTS Ericsson SGSN R8

Note: Before using this information and the product it supports, read the information in Notices on page 173.

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

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About this Documentation

This document was last updated on April 21, 2010 09:30 am

Audience

The target audience of this document is IBM Performance Manager for Wireless customers. They should be familiar with telecommunication and IT principles and should also have a good understanding of Solaris.

IMPORTANT: Before attempting an installation of Performance Manager for Wireless you are strongly advised to read the release notes and any readme files distributed with your Performance Manager for Wireless software. Readme files and release notes may contain information specific to your installation not contained in this guide. Failure to consult readme files and release notes may result in a corrupt, incomplete or failed installation.

Note: Performance Manager for Wireless Administrators should not, without prior consultation and agreement from IBM, make any changes to the Index Organized tables or database schema. Changes to the Index Organized tables or database schema may result in corruption of data and failure of the Performance Manager for Wireless System. This applies to all releases of Performance Manager for Wireless using all versions of interfaces.

Required Skills and Knowledge

This guide assumes you are familiar with the following:

- General IT Principles
- Sun Solaris Operating System
- Oracle Database
- Windows operating systems
- Graphical User Interfaces
- Network Operator's OSS and BSS systems architecture

This guide also assumes that you are familiar with your company's network and with procedures for configuring, monitoring, and solving problems on your network.

1. Change History

Issue	Date	Author	Comments
1.0	26/08/2008	IBM	Release version to AE
2.0	15/09/2008	IBM	Release for Checkpoint Charlie
3.0	26/11/2009	IBM	Fixpack Release
4.0	21/04/2010	IBM	Fixpack Release

2. Document References

Document Name	Date	Document Reference
Vendor Documentation		
Ericsson SGSN R8 Counter Description rev B	2006-2007	1/190 84-AXB 250 05/6

3. Outstanding Issues

Number	Date	Description	Planned Resolution
None			

4. 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
Bearer - Mapped with FRWan.Node_Id & "/" & moid	
E1_Link	Bearer.Ericsson.UMTS.High_level_Data_Link_Control
FRWan	Bearer.Ericsson.UMTS.Frame_Relay_WAN
Broadband_link - Mapped with LinkBd.Node_Id & "/" & moid	
LinkBd	Broadband_link.Ericsson.UMTS.SS7_broadband_link_for_UMTS
DLCI - Mapped with FRPvc.Node_Id &"/"& moid	
FRPvc	DLCI.Ericsson.UMTS.Frame_Relay_PVC

Iface_Area - Mapped with OSPF_Area.Node_Id & "/" & moid	
OSPF_Area	Iface_Area.Ericsson.UMTS.OSPF_Area
Iface_ATM_port - Mapped with ATM_Index.Node_Id & "/" & moid	
ATM_Index	Iface_ATM_port.Ericsson.UMTS.ATM_Adaptation_Layer_5
ATM_Index	Iface_ATM_port.Ericsson.UMTS.ATM_Convergence
ATM_Index	Iface_ATM_port.Ericsson.UMTS.ATM_Layer
ATM_Layer	Iface_ATM_port.Ericsson.UMTS.SDH_and_SONET
Iface_BGP_Peer - Mapped with BGP.Node_Id & "/" & moid	
BGP	Iface_BGP_Peer.Ericsson.UMTS.BGP_Peer
Iface_Ethernet_Port - Mapped with Ethernet.Node_Id & "/" & moid	
Ethernet	Iface_Ethernet_Port.Ericsson.UMTS.Ethernet
Iface_IPAddress - Mapped with OSPF_Interface.Node_Id & "/" & moid	
OSPF_Interface	Iface_IPAddress.Ericsson.UMTS.OSPF_Interface
Iface_Neighbour - Mapped with OSPF_Neighbor.Node_Id & "/" & moid	
OSPF_Neighbor	Iface_Neighbour.Ericsson.UMTS.OSPF_Neighbour
IP_Interface - Mapped with PXM.Node_Id & "/" & moid	
PXM	IP_Interface.Ericsson.UMTS.IP_Traffic
IP_Interface_Direction - Mapped with Filtering_SA.Node_Id & "/" & moid	
Filtering_SA	IP_Interface_Direction.Ericsson.UMTS.IP_Filtering
MagSlot_interface - Mapped with IP.Node_Id & "/" & moid	
Filtering_Slot	MagSlot_interface.Ericsson.UMTS.IP_Filtering_Slot
GPB	MagSlot_interface.Ericsson.UMTS.GPB_Sys
ICMP	MagSlot_interface.Ericsson.UMTS.ICMP_messages
IP	MagSlot_interface.Ericsson.UMTS.IP_Datagram

Ipsec	MagSlot_interface.Ericsson.UMTS.Ipsec_and_GRE_Slot
OSPF_slot	MagSlot_interface.Ericsson.UMTS.OSPF_CPU
SS7	MagSlot_interface.Ericsson.UMTS.SS7_Stack_for_UMTS
SS7	MagSlot_interface.Ericsson.UMTS.SS7_Stack
Narrowband_link - Mapped with LinkNb.Node_Id & "/" & moid	
LinkNb	Narrowband_link.Ericsson.UMTS.SS7_narrowband_link
NSVC - Mapped with BSBGP_NSVC.Node_Id &"/"& moid	
BSBGP_NSVC	NSVC.Ericsson.UMTS.BSSGP
NSC_NSVC	NSVC.Ericsson.UMTS.NSC
Processor - Mapped with Ibxx_GPB.Node_Id & "/" & moid	
Ibxx	Processor.Ericsson.UMTS.CPU_for_Interface_Board
Ibxx_GPB	Processor.Ericsson.UMTS.Sys_Resource
Routing_Area - Mapped with MM_IndexG.moid	
MM_IndexG	Routing_Area.Ericsson.UMTS.Mobility_Management
MM_IndexU	Routing_Area.Ericsson.UMTS.Mobility_Management_for_UMTS
SM_Index	Routing_Area.Ericsson.UMTS.Session_management_for_UMTS
SM_Index	Routing_Area.Ericsson.UMTS.Session_management
Security_Association - Mapped with IPSec_SA.Node_Id & "/" & SA_Name	
IPSec_SA	Security_Association.Ericsson.UMTS.IP_Security_Association
SGSN - Mapped with GTP.Node_Id	
BSBGP_SGSN	SGSN.Ericsson.UMTS.BSSGP
CAMEL	SGSN.Ericsson.UMTS.CAMEL_UMTS
CAMEL	SGSN.Ericsson.UMTS.CAMEL
EQUIP	SGSN.Ericsson.UMTS.EIR

GTP	SGSN.Ericsson.UMTS.GTP_payload_for_UMTS
GTP	SGSN.Ericsson.UMTS.GTP_payload
ISP	SGSN.Ericsson.UMTS.MS_connections_for_UMTS
ISP	SGSN.Ericsson.UMTS.MS_connections
ISYSC	SGSN.Ericsson.UMTS.WCDMA_GSM_Intersystem_Change
LLC	SGSN.Ericsson.UMTS.Logical_link_control
MBMS	SGSN.Ericsson.UMTS.MBMS_PerfMonitoring
MM_nonindexed	SGSN.Ericsson.UMTS.Mobility_Management_for_UMTS
MM_nonindexed	SGSN.Ericsson.UMTS.Mobility_Management
Overload	SGSN.Ericsson.UMTS.GSN_Overload_Protection
Performance_Monitoring	SGSN.Ericsson.UMTS.Performance_Monitoring
QoS	SGSN.Ericsson.UMTS.QoS_for_UMTS
QoS	SGSN.Ericsson.UMTS.QoS
Security	SGSN.Ericsson.UMTS.MS_security_for_UMTS
Security	SGSN.Ericsson.UMTS.MS_Security
SM_nonindexed	SGSN.Ericsson.UMTS.Session_management_for_UMTS
SM_nonindexed	SGSN.Ericsson.UMTS.Session_management
SMS	SGSN.Ericsson.UMTS.Short_messages_for_UMTS
SMS	SGSN.Ericsson.UMTS.Short_Message
SNDCP	SGSN.Ericsson.UMTS.Subnetwork_dependent_convergence_protocol
SS7_nonindexed	SGSN.Ericsson.UMTS.SS7_Stack
Signalling_Association - Mapped with M3UA.Node_Id & "/" & moid	
M3UA	Signalling_Association.Ericsson.UMTS.M3UA
Signalling_Point - Mapped with SS7_Index.Node_Id & "/" & moid	

SS7_Index	Signalling_Point.Ericsson.UMTS.SS7_Stack_for_UMTS
SS7_Index	Signalling_Point.Ericsson.UMTS.SS7_Stack
Subsystem - Mapped with Ssn.Node_Id & "/" & moid	
Ssn	Subsystem.Ericsson.UMTS.TCAP
Tunnel_Association - Mapped with GRE_TA.Node_Id & "/" & moid	
GRE_TA	Tunnel_Association.Ericsson.UMTS.GRE_TA

5. Tech Pack Prerequisites

This section lists the Tech Pack modules that the current Tech Pack is dependent on.

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

6. Network Model

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

6.1 Bearer details

In the network hierarchy, the immediate parent of the Bearer object is PCU.

Attribute Name	Description	Read-Only?	Time-Tracked?	Mapping
Primary Identifier				
Bearer_Id	A unique identifier for the Bearer.	Y		FRWan.Node_Id & "/" & moid
Relationship Attributes				
SGSN_Id	A unique identifier for the SGSN.	Y	Y	FRWan.Node_Id
PCU_Id	A unique identifier for the PCU.	Y	Y	"No mapping"
Region_Id	Region associated with the Bearer.	Y	Y	FRWan.Region_Id
Network_Id	Network associated with the Bearer.	Y	Y	FRWan.Network_Id
Configuration Attributes				
Bearer_Name	A user friendly name preferably unique for the Bearer.			FRWan.Node_Id & "/" & moid
Technology	Technology of the network/element (e.g. GSM, GPRS, UMTS).			"UMTS"
CIR	Designed Committed Information Rate.			"Populated by the customer"
Node_Id	A unique identifier for the Node.			FRWan.Node_Id
Node_Name	A user friendly name preferably unique for the Node.			FRWan.Node_Id
Node_Type	Type of Node.			"SGSN"

Vendor	Manufacturer of the Bearer			"Ericsson"

6.2 Broadband_link details

In the network hierarchy, the immediate parent of the Broadband_link object is Iface_ATM_port.

Attribute Name	Description	Read-Only?	Time-Tracked?	Mapping
Primary Identifier				
BBlink_Id	Identifier of the BroadBand Link	Y		LinkBd.Node_Id & "/" & moid
Relationship Attributes				
Iface_ATM_port_Id	Identifier of the Iface ATM port	Y	Y	LinkBd.Node_Id & "/" & Mag_Id & "." & Slot_Id & "." & Port_Id
Interface_Id	Identifier of the Interface	Y	Y	LinkBd.Node_Id & "/" & Mag_Id & "." & Slot_Id
SGSN_Id	Identifier of the SGSN	Y	Y	LinkBd.Node_Id
Region_Id	Identifier of the region	Y	Y	LinkBd.Region_Id
Network_Id	Identifier of the network	Y	Y	LinkBd.Network_Id
Configuration Attributes				
Bblink_Name	Meaningful name of the BroadBand Link			LinkBd.Node_Id & "/" & moid
VPI_Id	Identifier of the Virtual Path Identifier			LinkBd.VPI_Id
VCI_Id	Identifier of the Virtual Circuit Identifier			LinkBd.VCI_Id
Vendor	Manufacturer of the Broadband_link			"Ericsson"

6.3 DLCI details

In the network hierarchy, the immediate parent of the DLCI object is NSVC.

Attribute Name	Description	Read-Only?	Time-Tracked?	Mapping
Primary Identifier				
DLCI_Id	A unique identifier for the DLCI.	Y		FRPvc.Node_Id &"/"& moid
Relationship Attributes				
NSVC_Id	A unique identifier for the NSVC.	Y	Y	"No mapping"
Bearer_Id	A unique identifier for the Bearer.	Y	Y	FRPvc.Node_Id & "/" & moid
Region_Id	Region associated with the DLCI.	Y	Y	FRPvc.Region_Id
Network_Id	Network associated with the DLCI.	Y	Y	FRPvc.Network_Id
Configuration Attributes				
DLCI_Name	A user friendly name preferably unique for the DLCI.			FRPvc.moid
Technology	Technology of the network/element (e.g. GSM, GPRS, UMTS).			"UMTS"
Vendor	Manufacturer of the DLCI			"Ericsson"

6.4 Iface_Area details

In the network hierarchy, the immediate parent of the Iface_Area object is MagSlot_interface.

Attribute Name	Description	Read-Only?	Time-Tracked?	Mapping
Primary Identifier				
Iface_Area_Id	Identifier of the Iface Area	Y		OSPF_Area.Node_Id & "/" & moid
Relationship Attributes				
Interface_Id	Identifier of the Interface	Y	Y	OSPF_Area.Node_Id & "/" & Mag_Id & "." & Slot_Id
SGSN_Id	Identifier of the SGSN	Y	Y	OSPF_Area.Node_Id
Region_Id	Identifier of the region	Y	Y	OSPF_Area.Region_Id

Network_Id	Identifier of the network	Y	Y	OSPF_Area.Network_Id
Configuration Attributes				
Iface_Area_Name	Meaningful name for the Iface Area			OSPF_Area.Node_Id & "/" & moid
Technology	Technology of the network/element (e.g. GSM, GPRS, UMTS).			"UMTS"
Iface_id	Identifier of the interface			"No mapping"
Area_Id	Identifier of the Area			OSPF_Area.Node_Id & "/" & Area_Id
Vendor	Manufacturer of the Iface_Area			"Ericsson"

6.5 Iface_ATM_port details

In the network hierarchy, the immediate parent of the Iface_ATM_port object is MagSlot_interface.

Attribute Name	Description	Read-Only?	Time-Tracked?	Mapping
Primary Identifier				
Iface_ATM_port_Id	Identifier of the interface and ATM port Ids concatenation	Y		ATM_Index.Node_Id & "/" & moid
Relationship Attributes				
Interface_Id	Identifier of the Interface	Y	Y	ATM_Index.Node_Id & "/" & Mag_Id & "." & Slot_Id
SGSN_Id	Identifier of the SGSN	Y	Y	ATM_Index.Node_Id
Region_Id	Identifier of the region	Y	Y	ATM_Index.Region_Id
Network_Id	Identifier of the network	Y	Y	ATM_Index.Network_Id
Configuration Attributes				
Iface_ATM_port_Name	Meaningful name of the interface and ATM port Ids concatenation			ATM_Index.Node_Id & "/" & moid

Port	ATM port number			ATM_Index.Port_Id
Vendor	Manufacturer of the Iface_ATM_port			"Ericsson"

6.6 Iface_BGP_Peer details

In the network hierarchy, the immediate parent of the Iface_BGP_Peer object is MagSlot_interface.

Attribute Name	Description	Read-Only?	Time-Tracked?	Mapping
Primary Identifier				
Iface_BGP_Peer_Id	Identifier of the Iface BGP Peer	Y		BGP.Node_Id & "/" & moid
Relationship Attributes				
Interface_Id	Identifier of the Interface	Y	Y	BGP.Node_Id & "/" & Mag_Id & "." & Slot_Id
SGSN_Id	Identifier of the SGSN	Y	Y	BGP.Node_Id
Region_Id	Identifier of the region	Y	Y	BGP.Region_Id
Network_Id	Identifier of the network	Y	Y	BGP.Network_Id
Configuration Attributes				
Iface_BGP_Peer_Name	Meaningful name for the Iface BGP Peer			BGP.Node_Id & "/" & moid
Vendor	Manufacturer of the Iface_BGP_Peer			"Ericsson"

6.7 Iface_Ethernet_Port details

In the network hierarchy, the immediate parent of the Iface_Ethernet_Port object is MagSlot_interface.

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

Iface_Ethernet_Port_Id	Identifier of the Interface and Ethernet Unit id concatenation	Y		Ethernet.Node_Id & "/" & moid
Relationship Attributes				
Interface_Id	Identifier of the Interface	Y	Y	Ethernet.Node_Id & "/" & Mag_Id & "." & Slot_Id
SGSN_Id	Identifier of the SGSN	Y	Y	Ethernet.Node_Id
Region_Id	Identifier of the region	Y	Y	Ethernet.Region_Id
Network_Id	Identifier of the network	Y	Y	Ethernet.Network_Id
Configuration Attributes				
Iface_Ethernet_Port_Name	Meaningful name for the Iface Ethernet Port			Ethernet.Node_Id & "/" & moid
Port_Id	Identifier of the Ethernet port number			Ethernet.Port_Id
Vendor	Manufacturer of the Iface_Ethernet_Port			"Ericsson"

6.8 Iface_IPAddress details

In the network hierarchy, the immediate parent of the Iface_IPAddress object is MagSlot_interface.

Attribute Name	Description	Read-Only?	Time-Tracked?	Mapping
Primary Identifier				
Iface_Ipadd_Id	Identifier of the Iface IPAddress	Y		OSPF_Interface.Node_Id & "/" & moid
Relationship Attributes				
Interface_id	Identifier of the Interface	Y	Y	OSPF_Interface.Node_Id & "/" & Mag_Id & "." & Slot_Id
SGSN_Id	Identifier of the SGSN	Y	Y	OSPF_Interface.Node_Id
Region_Id	Identifier of the region	Y	Y	OSPF_Interface.Region_Id
Network_Id	Identifier of the network	Y	Y	OSPF_Interface.Network_Id

Configuration Attributes				
Iface_Ipadd_Name	Meaningful name for the Iface IPAddress			OSPF_Interface.Node_Id & "/" & moid
Technology	Technology of the network/element (e.g. GSM, GPRS, UMTS).			"UMTS"
Vendor	Manufacturer of the Iface_IPAddress			"Ericsson"

6.9 Iface_Neighbour details

In the network hierarchy, the immediate parent of the Iface_Neighbour object is MagSlot_interface.

Attribute Name	Description	Read-Only?	Time-Tracked?	Mapping
Primary Identifier				
Iface_Neighbour_Id	Identifier of the Iface Neighbour	Y		OSPF_Neighbor.Node_Id & "/" & moid
Relationship Attributes				
Interface_Id	Identifier of the interface	Y	Y	OSPF_Neighbor.Node_Id & "/" & Mag_Id & "." & Slot_Id
SGSN_Id	Identifier of the SGSN	Y	Y	OSPF_Neighbor.Node_Id
Region_Id	Identifier of the region	Y	Y	OSPF_Neighbor.Region_Id
Network_Id	Identifier of the network	Y	Y	OSPF_Neighbor.Network_Id
Configuration Attributes				
Iface_Neighbour_Name	Meaningful name of the Iface Neighbor			OSPF_Neighbor.Node_Id & "/" & moid
Vendor	Manufacturer of the Iface_Neighbour			"Ericsson"

6.10 IP_Interface_Direction details

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

Attribute Name	Description	Read-Only?	Time-Tracked?	Mapping
Primary Identifier				
IP_Interface_direction_Id	Identifier of the connection direction	Y		Filtering_SA.Node_Id & "/" & moid
Relationship Attributes				
SGSN_Id	Identifier of the SGSN	Y	Y	Filtering_SA.Node_Id
IP_Interface_Id	Identifier of the IP Interface	Y	Y	Filtering_SA.Node_id & "/" & ConnectionName
Region_Id	Identifier of region	Y	Y	Filtering_SA.Region_Id
Network_Id	Identifier of the network	Y	Y	Filtering_SA.Network_Id
Configuration Attributes				
IP_Interface_direction_Name	Meaningful name for the connection direction			Filtering_SA.Node_Id & "/" & moid
Direction	Identifier of the direction			Filtering_SA.Node_Id & "/" & Direction
Vendor	Manufacturer of the IP_Interface_Direction			"Ericsson"

6.11 IP_Interface details

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

Attribute Name	Description	Read-Only?	Time-Tracked?	Mapping
Primary Identifier				
Interface_Id	A unique identifier for the IP Interface.	Y		PXM.Node_Id & "/" & moid
Relationship Attributes				
Region_Id	Region associated with the IP Interface.	Y	Y	PXM.Region_Id
Network_Id	Network associated with the IP Interface.	Y	Y	PXM.Network_Id
Configuration Attributes				

Interface_Name	A user friendly name preferably unique for the IP Interface.			PXM.Node_Id & "/" & moid
Node_Id	A unique identifier for the Node (connected to the IP Interface).			PXM.Node_Id
Node_Name	A user friendly name preferably unique for the Node (connected to the IP Interface).			PXM.Node_Id
Node_Type	Type of Node (connected to the IP Interface).			"SGSN"
Mib2_if_index	Index of the Mib2 interface.			"No mapping"
Mib2_if_name	A user friendly name preferably unique for the Mib2 interface.			"No mapping"
Mib2_if_descr	Description of the Mib2 interface.			"No mapping"
Mib2_if_type	Type of Mib2 interface.			"No mapping"
MTU	Maximum Transmission Unit of the IP Interface.			"No mapping"
Speed	Transmission speed of the IP Interface.			"Populated by the customer"
Physical_address	Physical address of the IP Interface.			"No mapping"
Technology	Technology of the network/element (e.g. GPRS, UMTS).			"UMTS"
IP_Address	IP Address of the Node connected to the IP Interface.			"No mapping"
Subnet_Prefix_Length	Subnet prefix length allocation.			"No mapping"
Interface_Duplex	Interface duplex allocation.			"No mapping"
Interface_Version	Hardware/Software version of the IP Interface.			"No mapping"
Vendor	Manufacturer of the IP_Interface			"Ericsson"

6.12 MagSlot_interface details

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

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

Interface_Id	Identifier of the Interface	Y		IP.Node_Id & "/" & moid
Relationship Attributes				
SGSN_Id	Identifier of the SGSN	Y	Y	IP.Node_Id
Region_Id	Identifier of the region	Y	Y	IP.Region_Id
Network_Id	Identifier of the network	Y	Y	IP.Network_Id
Configuration Attributes				
Interface_Name	Meaningful name for the Interface			IP.Node_Id & "/" & moid
Interface_Type	Type or description of the Interface			"Populated by the customer"
Mag_Id	Identifier of the SGSN Mag			IP.Mag_Id
Slot_Id	Identifier of the SGSN Slot			IP.Slot_Id
Vendor	Manufacturer of the MagSlot_interface			"Ericsson"

6.13 Narrowband_link details

In the network hierarchy, the immediate parent of the Narrowband_link object is MagSlot_interface.

Attribute Name	Description	Read-Only?	Time-Tracked?	Mapping
Primary Identifier				
NBlink_Id	Identifier of the NarrowBand Link	Y		LinkNb.Node_Id & "/" & moid
Relationship Attributes				
Interface_Id	Identifier of the interface	Y	Y	LinkNb.Node_Id & "/" & Mag_Id & "." & Slot_Id
SGSN_Id	Identifier of the SGSN	Y	Y	LinkNb.Node_Id
Region_Id	Identifier of the region	Y	Y	LinkNb.Region_Id
Network_Id	Identifier of the network	Y	Y	LinkNb.Network_Id
Configuration Attributes				

Nblink_Name	Meaningful name of the NarrowBand Link			LinkNb.Node_Id & "/" & moid
Vendor	Manufacturer of the Narrowband_link			"Ericsson"

6.14 Network details

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

6.15 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
Primary Identifier				
NSVC_Id	A unique identifier for the NSVC.	Y		BSBGP_NSVC.Node_Id &"/"& moid
Relationship Attributes				
SGSN_Id	A unique identifier for the SGSN.	Y	Y	BSBGP_NSVC.Node_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	BSBGP_NSVC.Region_Id
Network_Id	Network associated with the NSVC.	Y	Y	BSBGP_NSVC.Network_Id
Configuration Attributes				
NSVC_Name	A user friendly name preferably unique for the NSVC.			BSBGP_NSVC.Node_Id &"/"& moid
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.			"No mapping"
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).			"UMTS"
Vendor	Manufacturer of the NSVC			"Ericsson"

6.16 Processor details

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

Attribute Name	Description	Read-Only?	Time-Tracked?	Mapping
Primary Identifier				
Processor_Id	A unique identifier for the Processor.	Y		Ibxx_GPB.Node_Id & "/" & moid
Relationship Attributes				
Region_Id	Region associated with the Processor.	Y	Y	Ibxx_GPB.Region_Id
Network_Id	Network associated with the Processor.	Y	Y	Ibxx_GPB.Network_Id
Configuration Attributes				

Processor_Name	A user friendly name preferably unique for the Processor.			Ibxx_GPB.Node_Id & "/" & moid
Processor_Type	Type of Processor.			"Interface Board / General Processing Board"
Technology	Technology of the network/element (e.g. GSM, GPRS, UMTS).			"UMTS"
Node_Id	This is the identifier for the network element containing the Processor.			Ibxx_GPB.Node_Id
Node_Name	A user friendly name preferably unique for the Node.			Ibxx_GPB.Node_Id
Node_Type	The type of the network element containing the Processor.			"SGSN"
Processor_Version	Hardware/Software version of the Processor.			"Populated by the customer"
Vendor	Manufacturer of the Processor			"Ericsson"

6.17 Region details

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

Attribute Name	Description	Read-Only?	Time-Tracked?	Mapping
Primary Identifier				
Region_Id	Region associated with the network object.	Y		GTP.Region_Id
Relationship Attributes				
Network_Id	Network associated with the Region.	Y	Y	GTP.Network_Id
Configuration Attributes				
Region_Name	A user friendly name preferably unique for the Region.			"Populated by customer"
Vendor	Manufacturer of the Region			"Ericsson"

6.18 Routing_Area details

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

Attribute Name	Description	Read-Only?	Time-Tracked?	Mapping
Primary Identifier				
Routing_Area_Id	A unique identifier for the Routing_Area.	Y		MM_IndexG.moid
Relationship Attributes				
SGSN_Id	A unique identifier for the SGSN.	Y	Y	MM_IndexG.Node_Id
Region_Id	Region associated with the Routing_Area.	Y	Y	MM_IndexG.Region_Id
LAC_Id	A unique identifier for the LAC.	Y	Y	substr(MM_IndexG.moid,7,5)
Network_Id	Network associated with the Routing_Area.	Y	Y	MM_IndexG.Network_Id
Configuration Attributes				
Routing_Area_Name	A user friendly name preferably unique for the Routing_Area.			MM_IndexG.moid
SGSN_Unit_Id	A unique identifier for the SGSN Unit.			"No mapping"
Vendor	Manufacturer of the Routing_Area			"Ericsson"

6.19 Security_Association details

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

Attribute Name	Description	Read-Only?	Time-Tracked?	Mapping
Primary Identifier				
Security_Association_Id	Identifier of the Security association	Y		IPSec_SA.Node_Id & "/" & SA_Name
Relationship Attributes				

SGSN_Id	Identifier of the SGSN	Y	Y	IPSec_SA.Node_Id
Region_Id	Identifier of the region	Y	Y	IPSec_SA.Region_Id
Network_Id	Identifier of the network	Y	Y	IPSec_SA.Network_Id
Configuration Attributes				
Security_Association_Name	Meaningful name of the Security Association			IPSec_SA.Node_Id & "/" & SA_Name
Vendor	Manufacturer of the Security_Association			"Ericsson"

6.20 SGSN details

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

This object is used for Data Availability tracking

Attribute Name	Description	Read-Only?	Time-Tracked?	Mapping
Primary Identifier				
SGSN_Id	A unique identifier for the SGSN.	Y		GTP.Node_Id
Relationship Attributes				
Region_Id	Region associated with the SGSN.	Y	Y	GTP.Region_Id
Network_Id	Network associated with the SGSN.	Y	Y	GTP.Network_Id
Configuration Attributes				
SGSN_Name	A user friendly name preferably unique for the SGSN.			GTP.Node_Id
SGSN_IP_address	IP Address of the SGSN.			"Populated by the customer"
SGSN_Version	Hardware/Software version of the SGSN.			"8.0"
Max_Subscriber	Maximum number of subscribers supported by the SGSN.		Y	"Populated by the customer"
Max_PDP	Maximum number of PDP sessions supported by the SGSN.			"Populated by the customer"

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

6.21 Signalling_Association details

In the network hierarchy, the immediate parent of the Signalling_Association object is MagSlot_interface.

Attribute Name	Description	Read-Only?	Time-Tracked?	Mapping
Primary Identifier				
Signalling_Association_Id	A unique identifier for the Signalling Association.	Y		M3UA.Node_Id & "/" & moid
Relationship Attributes				
Interface_Id	Identifier of the Interface.	Y	Y	M3UA.Node_Id & "/" & Mag_Id & "." & Slot_Id
SGSN_Id	Identifier of the SGSN.	Y	Y	M3UA.Node_Id
Region_Id	Identifier of the region.	Y	Y	M3UA.Region_Id
Network_Id	Identifier of the network.	Y	Y	M3UA.Network_Id
Configuration Attributes				
Signalling_Association_Name	Meaningful name for the Signalling Association.			M3UA.Node_Id & "/" & moid
SA_Id	Identifier number of the M3UA association.			M3UA.SA_Id
Vendor	Manufacturer of the Signalling_Association			"Ericsson"

6.22 Signalling_Point details

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

Attribute Name	Description	Read-Only?	Time-Tracked?	Mapping
Primary Identifier				
SS7_Point_Id	A unique identifier for the SS7 Point.	Y		SS7_Index.Node_Id & "/" & moid
Relationship Attributes				
Region_Id	Region associated with the SS7 Point. SS7_Point - the default value is derived via the Node.	Y	Y	SS7_Index.Region_Id
Network_Id	Network associated with the SS7 Point.	Y	Y	SS7_Index.Network_Id
Configuration Attributes				
SS7_Point_Name	A user friendly name preferably unique for the SS7 Point.			SS7_Index.Node_Id & "/" & moid
Node_Id	A unique identifier for the Node.			SS7_Index.Node_Id
Node_Name	A user friendly name preferably unique for the Node.			SS7_Index.Node_Id
Node_Type	Type of Node.			"SGSN"
Technology	Technology of the network/element (e.g. GSM, GPRS, UMTS).			"UMTS"
Adjacent_Node_Id	A unique identifier for the Adjacent Node.			"No mapping"
Vendor	Manufacturer of the Signalling_Point			"Ericsson"

6.23 Subsystem details

Attribute Name	Description	Read-Only?	Time-Tracked?	Mapping
Primary Identifier				
Subsystem_Id	Identifier of the Sub-system	Y		Ssn.Node_Id & "/" & moid
Relationship Attributes				
Region_Id	Identifier of the region	Y	Y	Ssn.Region_Id
Network_Id	Identifier of the network	Y	Y	Ssn.Network_Id

Configuration Attributes				
Subsystem_Name	Meaningful for the Subsystem			Ssn.Node_Id & "/" & moid
Node_Id	Identifier of the SGSN	Y		Ssn.Node_Id
Node_Type	Identifier of the node type			"SGSN"
Technology	Identifier of the technology			"UMTS"
Version	Version of the subsystem			"No mapping"
Node_Name	A user friendly name preferably unique for the Node.			Ssn.Node_Id
Vendor	Manufacturer of the Subsystem			"Ericsson"

6.24 Tunnel_Association details

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

Attribute Name	Description	Read-Only?	Time-Tracked?	Mapping
Primary Identifier				
Tunnel_Association_Id	Tunnel Association Identifier	Y		GRE_TA.Node_Id & "/" & moid
Relationship Attributes				
SGSN_Id	Identifier of the SGSN	Y	Y	GRE_TA.Node_Id
Region_Id	Identifier of the region	Y	Y	GRE_TA.Region_Id
Network_Id	Identifier of the network	Y	Y	GRE_TA.Network_Id
Configuration Attributes				
Tunnel_Association_Name	Meaningful name of the Tunnel Association			GRE_TA.Node_Id & "/" & moid
Vendor	Manufacturer of the Tunnel_Association			"Ericsson"

7. 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
Bearer	Ericsson_Bearer_Traffic_Busy_Hour	Bearer.Ericsson.Frame_Relay_WAN.Max_frWanBytes	ebtrfbh
DLCI	Ericsson_DLCI_Traffic_Busy_Hour	DLCI.Ericsson.Frame_Relay_PVC.Max_frPvcBytes	edtrfbh
SGSN	Ericsson_SGSN_PDP_Active_Busy_Hour	SGSN.Ericsson.Session_management.NbrActPdpContext	espactbh
SGSN	Ericsson_SGSN_PDP_Activation_Busy_Hour	SGSN.Ericsson.Session_management.Tot_AttActPdpContext	espabh
SGSN	Ericsson_SGSN_GTP_Traffic_Busy_Hour	SGSN.Ericsson.GTP_payload.Tot_DataOctGn	esgtpbh
SGSN	Ericsson_SGSN_3G_PDP_Activation_Busy_Hour	SGSN.Ericsson.Session_management_for_UMTS.AttActPdpContext	es3pabh
SGSN	Ericsson_SGSN_3G_PDP_Active_Busy_Hour	SGSN.Ericsson.Session_management_for_UMTS.NbrActPdpContext	es3pactbh
SGSN	Ericsson_SGSN_3G_GTP_Traffic_Busy_Hour	SGSN.Ericsson.GTP_payload_for_UMTS.Tot_DatOctIu	es3gtpbh

8. 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:

8.1 Bearer Performance Indicators

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

- Bearer.Ericsson.UMTS.Frame_Relay_WAN
- Bearer.Ericsson.UMTS.High_level_Data_Link_Control

8.1.1 Bearer.Ericsson.UMTS.Frame_Relay_WAN

Frame Relay Bearer statistics

KPI	Type	Data Type	Description	Derivation	Aggregation
frWanLmiErrors	ACCUMULATION	INT8	Number of bad frames received on LMI DLCI	FRWan.frWanLmiErrors	Sum, ebtrfbh, esgtpbh, espactbh, tot
frWanLmiTimeouts	ACCUMULATION	INT8	Number of times T392 timer expired	FRWan.frWanLmiTimeouts	Sum, ebtrfbh, esgtpbh, espactbh, tot
frWanLmiWanFlows	ACCUMULATION	INT8	-Obsolete in R6.0- Number of canput fails for frames on the LMI channel	FRWan.frWanLmiWanFlows	Sum, ebtrfbh, esgtpbh, espactbh, tot
frWanRxAsynchs	ACCUMULATION	INT8	Number of asynchronous frames received	FRWan.frWanRxAsynchs	Sum, ebtrfbh, esgtpbh, espactbh, tot
frWanRxBytes	ACCUMULATION	INT8	Number of bytes received	FRWan.frWanRxBytes	Sum, ebtrfbh, esgtpbh, espactbh, tot
frWanRxCLLMs	ACCUMULATION	INT8	Number of CLLM messages received	FRWan.frWanRxCLLMs	Sum, ebtrfbh, esgtpbh, espactbh, tot
frWanRxDrops	ACCUMULATION	INT8	Number of rx buffer allocation failures	FRWan.frWanRxDrops	Sum, ebtrfbh, esgtpbh, espactbh, tot
frWanRxFrames	ACCUMULATION	INT8	Number of frames received	FRWan.frWanRxFrames	Sum, ebtrfbh, esgtpbh, espactbh, tot
frWanRxFullStat	ACCUMULATION	INT8	Number of full status frames received	FRWan.frWanRxFullStat	Sum, ebtrfbh, esgtpbh, espactbh, tot
frWanRxInvDLCI	ACCUMULATION	INT8	Number of frames for invalid DLCIs	FRWan.frWanRxInvDLCI	Sum, ebtrfbh, esgtpbh, espactbh, tot
frWanRxInvRq	ACCUMULATION	INT8	Number of invalid frames received	FRWan.frWanRxInvRq	Sum, ebtrfbh, esgtpbh, espactbh, tot
frWanRxLmiPolls	ACCUMULATION	INT8	Number of PVC status enquiries	FRWan.frWanRxLmiPolls	Sum, ebtrfbh, esgtpbh, espactbh, tot
frWanRxSeqOnly	ACCUMULATION	INT8	Number of keep alive frames	FRWan.frWanRxSeqOnly	Sum, ebtrfbh, esgtpbh,

			received		espactbh, tot
frWanRxTooBig	ACCUMULATION	INT8	Frames received exceeding maximum size	FRWan.frWanRxTooBig	Sum, ebtrfbh, esgtpbh, espactbh, tot
frWanRxUnattDLCIs	ACCUMULATION	INT8	Number of frames for unattached (unused) DLCIs	FRWan.frWanRxUnattDLCIs	Sum, ebtrfbh, esgtpbh, espactbh, tot
frWanTxBytes	ACCUMULATION	INT8	Number of bytes transmitted	FRWan.frWanTxBytes	Sum, ebtrfbh, esgtpbh, espactbh, tot
frWanTxDrops	ACCUMULATION	INT8	The number of frames dropped in the upper write queue of failures.	FRWan.frWanTxDrops	Sum, ebtrfbh, esgtpbh, espactbh, tot
frWanTxFrames	ACCUMULATION	INT8	Number of frames transmitted	FRWan.frWanTxFrames	Sum, ebtrfbh, esgtpbh, espactbh, tot
frWanTxFullStat	ACCUMULATION	INT8	Number of full status Enquiry responses sent	FRWan.frWanTxFullStat	Sum, ebtrfbh, esgtpbh, espactbh, tot
frWanTxInvRq	ACCUMULATION	INT8	Number of invalid transmission frames	FRWan.frWanTxInvRq	Sum, ebtrfbh, esgtpbh, espactbh, tot
frWanTxLmiPolls	ACCUMULATION	INT8	Number of transmitted PVC status enquiries	FRWan.frWanTxLmiPolls	Sum, ebtrfbh, esgtpbh, espactbh, tot
frWanTxNoBuff	ACCUMULATION	INT8	Number of tx buffer allocation failures	FRWan.frWanTxNoBuff	Sum, ebtrfbh, esgtpbh, espactbh, tot
frWanTxSeqOnly	ACCUMULATION	INT8	Number of other status enquiry responses sent	FRWan.frWanTxSeqOnly	Sum, ebtrfbh, esgtpbh, espactbh, tot
frWanTxStops	ACCUMULATION	INT8	Number of congested transmit frames	FRWan.frWanTxStops	Sum, ebtrfbh, esgtpbh, espactbh, tot
frWanWanFlows	ACCUMULATION	INT8	Number of canput fails on the lower layer	FRWan.frWanWanFlows	Sum, ebtrfbh, esgtpbh, espactbh, tot
Max_frWanBytes	INTENSITY	INT8	Maximum number of transmitted or received bytes	if FRWan.frWanRxBytes > frWanTxBytes then frWanRxBytes else frWanTxBytes	Average, avg, ebtrfbh, esgtpbh, espactbh, max, min, tot

8.1.2 Bearer.Ericsson.UMTS.High_level_Data_Link_Control

High Level Data Link Control statistics

KPI	Type	Data Type	Description	Derivation	Aggregation
hdlcRxErrAbort	ACCUMULATION	INT8	Number of frames discarded due to a disruption in the reception caused by a received High level Data Link Control (HDLC) Abort pattern	E1_Link.hdlcRxErrAbort	Sum, ebtrfbh, esgtpbh, espactbh, tot
hdlcRxErrBusy	ACCUMULATION	INT8	Busy error Number of times the fraction has been restarted because the SCC has no empty message block in the Rx-BD queue to write the data to	E1_Link.hdlcRxErrBusy	Sum, ebtrfbh, esgtpbh, espactbh, tot
hdlcRxErrCRC	ACCUMULATION	INT8	Number of frames discarded due to CRC error	E1_Link.hdlcRxErrCRC	Sum, ebtrfbh, esgtpbh, espactbh, tot
hdlcRxErrLackOfBufs	ACCUMULATION	INT8	Number of discarded frames due to an empty STREAMS message block pool	E1_Link.hdlcRxErrLackOfBufs	Sum, ebtrfbh, esgtpbh, espactbh, tot
hdlcRxErrMaxFrameLen	ACCUMULATION	INT8	Number of frames discarded due to exceeded maximum frame length	E1_Link.hdlcRxErrMaxFrameLen	Sum, ebtrfbh, esgtpbh, espactbh, tot
hdlcRxErrNonOctetAlign	ACCUMULATION	INT8	Number of frames discarded due to noneven- 8-bit length	E1_Link.hdlcRxErrNonOctetAlign	Sum, ebtrfbh, esgtpbh, espactbh, tot
hdlcRxErrQueue	ACCUMULATION	INT8	Number of frames lost due to internal queue error	E1_Link.hdlcRxErrQueue	Sum, ebtrfbh, esgtpbh, espactbh, tot
hdlcRxOctets	ACCUMULATION	INT8	Number of received bytes	E1_Link.hdlcRxOctets	Sum, ebtrfbh, esgtpbh, espactbh, tot
hdlcRxOK	ACCUMULATION	INT8	Number of received correct frames	E1_Link.hdlcRxOK	Sum, ebtrfbh, esgtpbh, espactbh, tot
hdlcTxOctets	ACCUMULATION	INT8	Number of transmitted bytes	E1_Link.hdlcTxOctets	Sum, ebtrfbh,

					esgtpbh, espactbh, tot
hdlcTxOK	ACCUMULATION	INT8	Number of transmitted frames	E1_Link.hdlcTxOK	Sum, ebtrfbh, esgtpbh, espactbh, tot

8.2 Broadband_link Performance Indicators

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

- Broadband_link.Ericsson.UMTS.SS7_broadband_link_for_UMTS

8.2.1 Broadband_link.Ericsson.UMTS.SS7_broadband_link_for_UMTS

SS7 broadband link statistics

KPI	Type	Data Type	Description	Derivation	Aggregation
ss7MessageReceivedPerLinkBb	ACCUMULATION	INT8	Number of MSU messages received on this broadband link.	LinkBd.ss7MessageReceivedPerLinkBb	Sum, es3gtpbh, es3pabh, es3pactbh, tot
ss7MessageSentPerLinkBb	ACCUMULATION	INT8	Number of MSU messages sent on this broadband link	LinkBd.ss7MessageSentPerLinkBb	Sum, es3gtpbh, es3pabh, es3pactbh, tot
ss7OctetsReceivedPerLinkBb	ACCUMULATION	INT8	Number of KB received by MTP-L3 on a broadband link.	LinkBd.ss7OctetsReceivedPerLinkBb	Sum, es3gtpbh, es3pabh, es3pactbh, tot
ss7OctetsSentPerLinkBb	ACCUMULATION	INT8	Number of KB sent by MTP-L3 on a broadband link.	LinkBd.ss7OctetsSentPerLinkBb	Sum, es3gtpbh, es3pabh, es3pactbh, tot

ss7SLFailureBb	ACCUMULATION	INT8	The number of signalling link failures detected on a broadband link. Planned Out-Of-Service situations commenced by deactivating the link is not counted. The counter is indexed per link.	LinkBd.ss7SLFailureBb	Sum, es3gtpbh, es3pabh, es3pactbh, tot
ss7SLRestorationBb	ACCUMULATION	INT8	The number of signalling link restorations occurred on a broadband link. All restorations are counted including when the link is restored after a planned Out-Of-Service situation. The counter is indexed per link.	LinkBd.ss7SLRestorationBb	Sum, es3gtpbh, es3pabh, es3pactbh, tot

8.3 DLCI Performance Indicators

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

- DLCI.Ericsson.UMTS.Frame_Relay_PVC

8.3.1 DLCI.Ericsson.UMTS.Frame_Relay_PVC

Frame Relay PVC counters

KPI	Type	Data Type	Description	Derivation	Aggregation
frPvcRxBECNs	ACCUMULATION	INT8	BECN bit set on received frame count	FRPvc.frPvcRxBECNs	Sum, ebtrfbh, edtrfbh, tot
frPvcRxBytes	ACCUMULATION	INT8	Number of bytes received	FRPvc.frPvcRxBytes	Sum, ebtrfbh, edtrfbh, tot
frPvcRxDe	ACCUMULATION	INT8	Discard eligibility bit set on received frame count	FRPvc.frPvcRxDe	Sum, ebtrfbh, edtrfbh, tot
frPvcRxFECNs	ACCUMULATION	INT8	FECN bit set on received frame count	FRPvc.frPvcRxFECNs	Sum, ebtrfbh, edtrfbh, tot

frPvcRxFrames	ACCUMULATION	INT8	Number of frames received	FRPvc.frPvcRxFrames	Sum, ebtrfbh, edtrfbh, tot
frPvcRxStops	ACCUMULATION	INT8	Failed canputs to upper read queue	FRPvc.frPvcRxStops	Sum, ebtrfbh, edtrfbh, tot
frPvcTxBytes	ACCUMULATION	INT8	Number of bytes transmitted	FRPvc.frPvcTxBytes	Sum, ebtrfbh, edtrfbh, tot
frPvcTxDe	ACCUMULATION	INT8	Discard eligibility transmit total	FRPvc.frPvcTxDe	Sum, ebtrfbh, edtrfbh, tot
frPvcTxFrames	ACCUMULATION	INT8	Number of frames transmitted	FRPvc.frPvcTxFrames	Sum, ebtrfbh, edtrfbh, tot
frPvcTxStops	ACCUMULATION	INT8	Number of congested transmit frames	FRPvc.frPvcTxStops	Sum, ebtrfbh, edtrfbh, tot
Max_frPvcBytes	INTENSITY	INT8	Maximum number of transmitted or received bytes	if FRPvc.frPvcRxBytes > frPvcTxBytes then frPvcRxBytes else frPvcTxBytes	Average, avg, ebtrfbh, edtrfbh, max, min, tot

8.4 Iface_Area Performance Indicators

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

- Iface_Area.Ericsson.UMTS.OSPF_Area

8.4.1 Iface_Area.Ericsson.UMTS.OSPF_Area

Open Shortest Path First (OSPF) routing protocol area statistics

KPI	Type	Data Type	Description	Derivation	Aggregation
ospfAreaBdrRtrCount	INTENSITY	INTEGER	Number of area border routers reachable within this area	OSPF_Area.ospfAreaBdrRtrCount	Average, avg, esgtpbh, espabh, espactbh, max, min, tot
ospfAreaLsaCount	INTENSITY	INTEGER	Number of link-state advertisements (LSA) in this areas link-state database, excluding	OSPF_Area.ospfAreaLsaCount	Average, avg, esgtpbh, espabh, espactbh, max,

			AS External LSAs		min, tot
ospfAsBdrRtrCount	INTENSITY	INTEGER	Number of Autonomous System border routers reachable within this area	OSPF_Area.ospfAsBdrRtrCount	Average, avg, esgtpbh, espabh, espactbh, max, min, tot
ospfSpfRuns	ACCUMULATION	INT8	Number of times that the intra-area route table has been calculated using this areas link-state database (cf. Dijkstras algorithm)	OSPF_Area.ospfSpfRuns	Sum, esgtpbh, espabh, espactbh, tot

8.5 Iface_ATM_port Performance Indicators

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

- Iface_ATM_port.Ericsson.UMTS.ATM_Adaptation_Layer_5
- Iface_ATM_port.Ericsson.UMTS.ATM_Convergence
- Iface_ATM_port.Ericsson.UMTS.ATM_Layer
- Iface_ATM_port.Ericsson.UMTS.SDH_and_SONET

8.5.1 Iface_ATM_port.Ericsson.UMTS.ATM_Adaptation_Layer_5

ATM Adaptation Layer 5 (AAL5) statistics

KPI	Type	Data Type	Description	Derivation	Aggregation
atmal5CRCErrors	ACCUMULATION	INT8	Number of AAL5 CPCS PDUs received with CRC-32 errors	ATM_Index.atmal5CRCErrors	Sum, esgtpbh, espabh, espactbh, tot
atmal5IfInDiscards	ACCUMULATION	INT8	Number of received AAL5 CPCS PDUs discarded. Possible reason may be input buffer overflow	ATM_Index.atmal5IfInDiscards	Sum, esgtpbh, espabh, espactbh, tot
atmal5IfInErrors	ACCUMULATION	INT8	Number of error AAL5 CPCS PDUs received. The	ATM_Index.atmal5IfInErrors	Sum, esgtpbh,

			types of errors counted include CRC-32 errors, SAR time-out errors, and oversized SDU errors		espabh, espactbh, tot
atmal5IfInOctets	ACCUMULATION	INT8	Number of received AAL5 CPCS PDU octets	ATM_Index.atmal5IfInOctets	Sum, esgtpbh, espabh, espactbh, tot
atmal5IfInPkts	ACCUMULATION	INT8	Number of received AAL5 CPCS PDUs passed to a higher-layer	ATM_Index.atmal5IfInPkts	Sum, esgtpbh, espabh, espactbh, tot
atmal5IfOutDiscards	ACCUMULATION	INT8	Number of AAL5 CPCS PDUs received for transmission that are discarded	ATM_Index.atmal5IfOutDiscards	Sum, esgtpbh, espabh, espactbh, tot
atmal5IfOutErrors	ACCUMULATION	INT8	Number of AAL5 CPCS PDUs that could not be transmitted due to errors	ATM_Index.atmal5IfOutErrors	Sum, esgtpbh, espabh, espactbh, tot
atmal5IfOutOctets	ACCUMULATION	INT8	Number of AAL5 CPCS PDU octets transmitted	ATM_Index.atmal5IfOutOctets	Sum, esgtpbh, espabh, espactbh, tot
atmal5IfOutPkts	ACCUMULATION	INT8	Number of AAL5 CPCS PDUs received from a higher layer for transmission	ATM_Index.atmal5IfOutPkts	Sum, esgtpbh, espabh, espactbh, tot
atmal5OverSizedSDUs	ACCUMULATION	INT8	Number of AAL5 CPCS PDUs discarded on this AAL5 VCC at the interface associated with an AAL5 entity because the AAL5 SDUs were too large	ATM_Index.atmal5OverSizedSDUs	Sum, esgtpbh, espabh, espactbh, tot

8.5.2 Iface_ATM_port.Ericsson.UMTS.ATM_Convergence

ATM Transmission Convergence Layer statistics

KPI	Type	Data Type	Description	Derivation	Aggregation
atmtclCorrectableHECs	ACCUMULATION	INT8	Correctable HEC errors, if single-bit HEC error correction is enabled, otherwise not valid	ATM_Index.atmtclCorrectableHECs	Sum, esgtpbh, espabh, espactbh, tot

atmtclEgressCells	ACCUMULATION	INT8	Number of user cells in egress direction	ATM_Index.atmtclEgressCells	Sum, esgtpbh, espabh, espactbh, tot
atmtclIngressCells	ACCUMULATION	INT8	Number of error free user cells in ingress direction	ATM_Index.atmtclIngressCells	Sum, esgtpbh, espabh, espactbh, tot
atmtclOCDEvents	ACCUMULATION	INT8	Number of times the Out of Cell Delineation (OCD) events occurred	ATM_Index.atmtclOCDEvents	Sum, esgtpbh, espabh, espactbh, tot
atmtclUncorrectableHECs	ACCUMULATION	INT8	Uncorrectable HEC errors, if single-bit HEC error correction is enabled, otherwise it is a count of all error cells	ATM_Index.atmtclUncorrectableHECs	Sum, esgtpbh, espabh, espactbh, tot

8.5.3 Iface_ATM_port.Ericsson.UMTS.ATM_Layer

ATM layer statistics

KPI	Type	Data Type	Description	Derivation	Aggregation
atmlCellDrops	ACCUMULATION	INT8	Number of cell drops	ATM_Index.atmlCellDrops	Sum, esgtpbh, espabh, espactbh, tot
atmlCLPCells	ACCUMULATION	INT8	Number of received cells with Cell Loss Priority (CLP) flag set	ATM_Index.atmlCLPCells	Sum, esgtpbh, espabh, espactbh, tot
atmlCongestionErrors	ACCUMULATION	INT8	Number of received cells with PT field indicating congestion experienced	ATM_Index.atmlCongestionErrors	Sum, esgtpbh, espabh, espactbh, tot
atmlCPIErrors	ACCUMULATION	INT8	Number of received cells with Common Part Indicator (CPI) field different from zero	ATM_Index.atmlCPIErrors	Sum, esgtpbh, espabh, espactbh, tot
atmlInvalidCells	ACCUMULATION	INT8	Number of invalid cells	ATM_Index.atmlInvalidCells	Sum, esgtpbh, espabh, espactbh, tot
atmlVpiVciLookupErrors	ACCUMULATION	INT8	Number of VPI VCI look-up errors	ATM_Index.atmlVpiVciLookupErrors	Sum, esgtpbh, espabh, espactbh, tot

8.5.4 Iface_ATM_port.Ericsson.UMTS.SDH_and_SONET

SDH and SONET statistics

KPI	Type	Data Type	Description	Derivation	Aggregation
atmplLineAIS	ACCUMULATION	INT8	Number of Line Alarm Indication Signal (AIS) events	ATM_Layer.atmplLineAIS	Sum, esgtpbh, espabh, espactbh, tot
atmplLineOverheadBIPErrors	ACCUMULATION	INT8	Number of line overhead Bit Interleaved Parity (BIP) errors	ATM_Layer.atmplLineOverheadBIPErrors	Sum, esgtpbh, espabh, espactbh, tot
atmplLineRDI	ACCUMULATION	INT8	Number of Line Remote Defect Indication (RDI) events	ATM_Layer.atmplLineRDI	Sum, esgtpbh, espabh, espactbh, tot
atmplLineREI	ACCUMULATION	INT8	Number of line Remote Error Indications(REI), former FEBE	ATM_Layer.atmplLineREI	Sum, esgtpbh, espabh, espactbh, tot
atmplLOF	ACCUMULATION	INT8	Number of Loss Of Frames (LOF) events	ATM_Layer.atmplLOF	Sum, esgtpbh, espabh, espactbh, tot
atmplLOP	ACCUMULATION	INT8	Number of Loss Of Pointer (LOP) events	ATM_Layer.atmplLOP	Sum, esgtpbh, espabh, espactbh, tot
atmplLOS	ACCUMULATION	INT8	Number of Loss Of Signals (LOS) events	ATM_Layer.atmplLOS	Sum, esgtpbh, espabh, espactbh, tot
atmplOOF	ACCUMULATION	INT8	Number of Out Of Frames (OOF) events	ATM_Layer.atmplOOF	Sum, esgtpbh, espabh, espactbh, tot
atmplPathAIS	ACCUMULATION	INT8	Number of path Alarm Indication Signal (AIS) events	ATM_Layer.atmplPathAIS	Sum, esgtpbh, espabh, espactbh, tot
atmplPathOverheadBIPErrors	ACCUMULATION	INT8	Number of path overhead Bit Interleaved Parity (BIP)	ATM_Layer.atmplPathOverheadBIPErrors	Sum, esgtpbh, espabh, espactbh,

			errors		tot
atmplPathRDI	ACCUMULATION	INT8	Number of path Remote Defect Indication (RDI) events	ATM_Layer.atmplPathRDI	Sum, esgtpbh, espabh, espactbh, tot
atmplPathREI	ACCUMULATION	INT8	Number of path Remote Error Indications(REI), former FEBE	ATM_Layer.atmplPathREI	Sum, esgtpbh, espabh, espactbh, tot
atmplSectionOverheadBIPErrors	ACCUMULATION	INT8	Number of section overhead Bit Interleaved Parity (BIP) errors	ATM_Layer.atmplSectionOverheadBIPErrors	Sum, esgtpbh, espabh, espactbh, tot

8.6 Iface_BGP_Peer Performance Indicators

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

- Iface_BGP_Peer.Ericsson.UMTS.BGP_Peer

8.6.1 Iface_BGP_Peer.Ericsson.UMTS.BGP_Peer

Border Gateway Protocol (BGP) peer statistics

KPI	Type	Data Type	Description	Derivation	Aggregation
bgpPeerFsmEstablishedTransitions	ACCUMULATION	INT8	Number of times the BGP FSM is transitioned into the established state.	BGP.bgpPeerFsmEstablishedTransitions	Sum, esgtpbh, espabh, espactbh, tot
bgpPeerInTotalMessages	ACCUMULATION	INT8	Number of messages received from the remote peer on this connection.	BGP.bgpPeerInTotalMessages	Sum, esgtpbh, espabh, espactbh, tot
bgpPeerInUpdateElapsedTime	INTENSITY	INTEGER	Elapsed time since the last BGP	BGP.bgpPeerInUpdateElapsedTime	Average, avg,

			UPDATE message was received from the peer. Each time the bpgPeerInUpdates is incremented, the value of this gauge is set to zero.		esgtpbh, espabh, espactbh, max, min, tot
bgpPeerInUpdates	ACCUMULATION	INT8	Number of BGP UPDATE messages received on this connection.	BGP.bgpPeerInUpdates	Sum, esgtpbh, espabh, espactbh, tot
bgpPeerOutTotalMessages	ACCUMULATION	INT8	Number of messages transmitted to the remote peer on this connection.	BGP.bgpPeerOutTotalMessages	Sum, esgtpbh, espabh, espactbh, tot
bgpPeerOutUpdates	ACCUMULATION	INT8	Number of BGP UPDATE messages transmitted on this connection.	BGP.bgpPeerOutUpdates	Sum, esgtpbh, espabh, espactbh, tot

8.7 Iface_Ethernet_Port Performance Indicators

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

- Iface_Ethernet_Port.Ericsson.UMTS.Ethernet

8.7.1 Iface_Ethernet_Port.Ericsson.UMTS.Ethernet

Ethernet port interface statistics

KPI	Type	Data Type	Description	Derivation	Aggregation
ethInErrorsBUF	ACCUMULATION	INT8	Number of incoming buffer errors	Ethernet.ethInErrorsBUF	Sum, esgtpbh, espabh, espactbh, tot
ethInErrorsCE	ACCUMULATION	INT8	Number of incoming CRC errors	Ethernet.ethInErrorsCE	Sum, esgtpbh, espabh, espactbh, tot

ethInErrorsCLBLK	ACCUMULATION	INT8	Number of incoming clblk errors	Ethernet.ethInErrorsCLBLK	Sum, esgtpbh, espabh, espactbh, tot
ethInErrorsCS	ACCUMULATION	INT8	Number of incoming collisions seen	Ethernet.ethInErrorsCS	Sum, esgtpbh, espabh, espactbh, tot
ethInErrorsFF	ACCUMULATION	INT8	Failed the address recognition filtering	Ethernet.ethInErrorsFF	Sum, esgtpbh, espabh, espactbh, tot
ethInErrorsMBLK	ACCUMULATION	INT8	Number of incoming mblock errors	Ethernet.ethInErrorsMBLK	Sum, esgtpbh, espabh, espactbh, tot
ethInErrors	ACCUMULATION	INT8	Number of incoming errors	Ethernet.ethInErrors	Sum, esgtpbh, espabh, espactbh, tot
ethInErrorsRF	ACCUMULATION	INT8	Number of runt frames (frames damaged by collision)	Ethernet.ethInErrorsRF	Sum, esgtpbh, espabh, espactbh, tot
ethInErrorsTL	ACCUMULATION	INT8	Ethernet frame too long	Ethernet.ethInErrorsTL	Sum, esgtpbh, espabh, espactbh, tot
ethInMF	ACCUMULATION	INT8	(Obsolete in R7.0 This is replaced by ifInPkts) Ethernet Multicast frames received	Ethernet.ethInMF	Sum, esgtpbh, espabh, espactbh, tot
ethInPkts	ACCUMULATION	INT8	(Obsolete in R7.0 This is replaced by ifInPkts) Number of packets delivered by this sub-layer to a higher (sub-)layer	Ethernet.ethInPkts	Sum, esgtpbh, espabh, espactbh, tot
ethOutErrorOWN	ACCUMULATION	INT8	Number of outgoing own errors	Ethernet.ethOutErrorOWN	Sum, esgtpbh, espabh, espactbh, tot
ethOutErrorsBUF	ACCUMULATION	INT8	Number of outgoing buffer errors	Ethernet.ethOutErrorsBUF	Sum, esgtpbh, espabh, espactbh, tot
ethOutErrorsEC	ACCUMULATION	INT8	Number of outgoing excessive collisions	Ethernet.ethOutErrorsEC	Sum, esgtpbh, espabh, espactbh, tot
ethOutErrorsLC	ACCUMULATION	INT8	Number of outgoing late collisions	Ethernet.ethOutErrorsLC	Sum, esgtpbh, espabh, espactbh, tot
ethOutErrorsLO	ACCUMULATION	INT8	Number of outgoing loss of carrier errors	Ethernet.ethOutErrorsLO	Sum, esgtpbh, espabh, espactbh, tot
ethOutErrorsNC	ACCUMULATION	INT8	Number of outgoing no carrier errors	Ethernet.ethOutErrorsNC	Sum, esgtpbh, espabh, espactbh, tot
ethOutErrors	ACCUMULATION	INT8	Number of outbound errors	Ethernet.ethOutErrors	Sum, esgtpbh, espabh,

					espactbh, tot
ethOutErrorsTO	ACCUMULATION	INT8	Number of outgoing transmit jabber timeouts	Ethernet.ethOutErrorsTO	Sum, esgtpbh, espabh, espactbh, tot
ethOutErrorsTXD	ACCUMULATION	INT8	Number of transmit descriptor errors (TxD could not be created)	Ethernet.ethOutErrorsTXD	Sum, esgtpbh, espabh, espactbh, tot
ethOutErrorsUF	ACCUMULATION	INT8	Number of outgoing underflow errors	Ethernet.ethOutErrorsUF	Sum, esgtpbh, espabh, espactbh, tot
ethOutPkts	ACCUMULATION	INT8	(Obsolete in R7.0 This is replaced by ifOutPkts) Number of packets that higher-level protocols requested to be transmitted	Ethernet.ethOutPkts	Sum, esgtpbh, espabh, espactbh, tot

8.8 Iface_IPAddress Performance Indicators

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

- Iface_IPAddress.Ericsson.UMTS.OSPF_Interface

8.8.1 Iface_IPAddress.Ericsson.UMTS.OSPF_Interface

Open Shortest Path First (OSPF) routing protocol interface statistics

KPI	Type	Data Type	Description	Derivation	Aggregation
ospfIfEvents	ACCUMULATION	INT8	Number of times this OSPF interface has changed its state, or an error has occurred	OSPF_Interface.ospfIfEvents	Sum, esgtpbh, espabh, espactbh, tot

8.9 Iface_Neighbour Performance Indicators

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

- Iface_Neighbour.Ericsson.UMTS.OSPF_Neighbour

8.9.1 Iface_Neighbour.Ericsson.UMTS.OSPF_Neighbour

Open Shortest Path First (OSPF) routing protocol neighbour statistics

KPI	Type	Data Type	Description	Derivation	Aggregation
ospfNbrEvents	ACCUMULATION	INT8	Number of times this neighbour relationship has changed state, or an error has occurred	OSPF_Neighbor.ospfNbrEvents	Sum, esgtpbh, espabh, espactbh, tot

8.10 IP_Interface Performance Indicators

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

- IP_Interface.Ericsson.UMTS.IP_Traffic

8.10.1 IP_Interface.Ericsson.UMTS.IP_Traffic

IP traffic statistics

KPI	Type	Data	Description	Derivation	Aggregation

		Type			
ifInDiscards	ACCUMULATION	INT8	Number of inbound IP packets dropped in the Ethernet driver due to lack of resources.	PXM.ifInDiscards	Sum, tot
ifInOctets	ACCUMULATION	INT8	Number of octets received on the interface, including framing characters	PXM.ifInOctets	Sum, tot
ifInPkts	ACCUMULATION	INT8	Number of packets, delivered by this sub-layer to a higher (sub-)layer	PXM.ifInPkts	Sum, tot
ifOutDiscards	ACCUMULATION	INT8	Number of outbound packets that have been dropped in the Ethernet driver due to lack of resources. There can be a lack of resources when full packet queues, or when the driver is out of buffers, clusters, or descriptors.	PXM.ifOutDiscards	Sum, tot
ifOutOctets	ACCUMULATION	INT8	Number of octets transmitted out of the interface, including framing characters	PXM.ifOutOctets	Sum, tot
ifOutPkts	ACCUMULATION	INT8	Number of packets that higher-level protocols requested to be transmitted	PXM.ifOutPkts	Sum, tot
ifOutQlen	INTENSITY	INTEGER	Length of the output packet queue (in packets)	PXM.ifOutQlen	Average, avg, max, min, tot

8.11 IP_Interface_Direction Performance Indicators

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

- IP_Interface_Direction.Ericsson.UMTS.IP_Filtering

8.11.1 IP_Interface_Direction.Ericsson.UMTS.IP_Filtering

IP Filtering Slot statistics

KPI	Type	Data Type	Description	Derivation	Aggregation

filterAllowedPackets	ACCUMULATION	INT8	Number of packets allowed by filter for a specific interface and direction	Filtering_SA.filterAllowedPackets	Sum, esgtpbh, espabh, espactbh, tot
filterDeniedPackets	ACCUMULATION	INT8	Number of packets denied by filter for a specific interface and direction	Filtering_SA.filterDeniedPackets	Sum, esgtpbh, espabh, espactbh, tot
filterIpsecPackets	ACCUMULATION	INT8	Number of packets classified as IPsec by filter for a specific interface and direction	Filtering_SA.filterIpsecPackets	Sum, esgtpbh, espabh, espactbh, tot

8.12 MagSlot_interface Performance Indicators

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

8.12.1 MagSlot_interface.Ericsson.UMTS.GPB_Sys

(Obsolete in R8) System General Processing Board statistics

KPI	Type	Data Type	Description	Derivation	Aggregation
SYSsnCpuUsageGPB	INTENSITY	FLOAT	(Obsolete in R8) Current CPU usage per processor for a General Processing Board (GPB)	GPB.SYS_gsnCpuUsageGPB	Average, avg, esgtpbh, espabh, espactbh, max, min, tot

8.12.2 MagSlot_interface.Ericsson.UMTS.ICMP_messages

ICMP message statistics

KPI	Type	Data Type	Description	Derivation	Aggregation
icmpInDestUnreachs	ACCUMULATION	INT8	Number of ICMP Destination Unreachable messages received	ICMP.icmpInDestUnreachs	Sum, esgtpbh, espabh, espactbh, tot
icmpInEchoReps	ACCUMULATION	INT8	Number of ICMP Echo Reply messages received	ICMP.icmpInEchoReps	Sum, esgtpbh, espabh, espactbh, tot
icmpInEchos	ACCUMULATION	INT8	Number of ICMP Echo (request) messages received	ICMP.icmpInEchos	Sum, esgtpbh, espabh, espactbh, tot
icmpInErrors	ACCUMULATION	INT8	Number of ICMP messages which the entity received but determined as having ICMPspecific errors (bad ICMP checksums, bad length, etc)	ICMP.icmpInErrors	Sum, esgtpbh, espabh, espactbh, tot
icmpInMsgs	ACCUMULATION	INT8	Number of ICMP messages which the entity received Note that this counter also includes all those counted by icmpInErrors	ICMP.icmpInMsgs	Sum, esgtpbh, espabh, espactbh, tot
icmpInParmProbs	ACCUMULATION	INT8	Number of ICMP Parameter Problem messages received	ICMP.icmpInParmProbs	Sum, esgtpbh, espabh, espactbh, tot
icmpInRedirects	ACCUMULATION	INT8	Number of ICMP Redirect messages received	ICMP.icmpInRedirects	Sum, esgtpbh, espabh, espactbh, tot
icmpInTimeExcds	ACCUMULATION	INT8	Number of ICMP Time Exceeded messages received	ICMP.icmpInTimeExcds	Sum, esgtpbh, espabh, espactbh, tot
icmpOutDestUnreachs	ACCUMULATION	INT8	Number of ICMP Destination Unreachable messages sent	ICMP.icmpOutDestUnreachs	Sum, esgtpbh, espabh, espactbh, tot
icmpOutEchoReps	ACCUMULATION	INT8	Number of ICMP Echo Reply messages sent	ICMP.icmpOutEchoReps	Sum, esgtpbh, espabh, espactbh,

					tot
icmpOutEchos	ACCUMULATION	INT8	Number of ICMP Echo (request) messages sent	ICMP.icmpOutEchos	Sum, esgtpbh, espabh, espactbh, tot
icmpOutErrors	ACCUMULATION	INT8	Number of ICMP messages which this entity did not send due to problems discovered within ICMP such as a lack of buffers	ICMP.icmpOutErrors	Sum, esgtpbh, espabh, espactbh, tot
icmpOutMsgs	ACCUMULATION	INT8	Number of ICMP messages which this entity attempted to send	ICMP.icmpOutMsgs	Sum, esgtpbh, espabh, espactbh, tot
icmpOutParmProbs	ACCUMULATION	INT8	Number of ICMP Parameter Problem messages sent	ICMP.icmpOutParmProbs	Sum, esgtpbh, espabh, espactbh, tot
icmpOutRedirects	ACCUMULATION	INT8	Number of ICMP Redirect messages sent For a host, this object will always be zero, since hosts do not send redirects	ICMP.icmpOutRedirects	Sum, esgtpbh, espabh, espactbh, tot
icmpOutTimeExcds	ACCUMULATION	INT8	Number of ICMP Time Exceeded messages sent	ICMP.icmpOutTimeExcds	Sum, esgtpbh, espabh, espactbh, tot

8.12.3 MagSlot_interface.Ericsson.UMTS.IP_Datagram

IP Datagram statistics

KPI	Type	Data Type	Description	Derivation	Aggregation
ipForwDatagrams	ACCUMULATION	INT8	Number of input datagrams for which this entity was not their final IP destination, as a result of which an attempt was made to find a route to forward them to that destination	IP.ipForwDatagrams	Sum, esgtpbh, espabh, espactbh, tot
ipFragCreates	ACCUMULATION	INT8	Number of IP datagram fragments that have been generated as a result of fragmentation at this entity	IP.ipFragCreates	Sum, esgtpbh, espabh, espactbh, tot
ipFragFails	ACCUMULATION	INT8	Number of IP datagrams that have been discarded because they	IP.ipFragFails	Sum, esgtpbh,

			needed to be fragmented at this entity		espabh, espactbh, tot
ipFragOKs	ACCUMULATION	INT8	Number of IP datagrams that have been fragmented at this entity	IP.ipFragOKs	Sum, esgtpbh, espabh, espactbh, tot
ipInAddrErrors	ACCUMULATION	INT8	Number of input datagrams discarded because the IP address in their IP headers destination field was not a valid address This count includes invalid addresses (eg 0000) and addresses of unsupported Classes (eg Class E)	IP.ipInAddrErrors	Sum, esgtpbh, espabh, espactbh, tot
ipInHdrErrors	ACCUMULATION	INT8	Number of input datagrams discarded due to errors in their IP headers, including bad checksums, version number mismatch, other format errors, time-to-live exceeded, errors discovered in processing their IP options	IP.ipInHdrErrors	Sum, esgtpbh, espabh, espactbh, tot
ipInReceives	ACCUMULATION	INT8	Number of input datagrams received from interfaces, including those received in error	IP.ipInReceives	Sum, esgtpbh, espabh, espactbh, tot
ipOutNoRoutes	ACCUMULATION	INT8	Number IP datagrams discarded because no route could be found to transmit them to their destination	IP.ipOutNoRoutes	Sum, esgtpbh, espabh, espactbh, tot
ipReasmFails	ACCUMULATION	INT8	Number of failures detected by the IP re-assembly algorithm (for whatever reason: timed out, errors, etc)	IP.ipReasmFails	Sum, esgtpbh, espabh, espactbh, tot
ipReasmOKs	ACCUMULATION	INT8	Number of IP datagrams successfully re-assembled	IP.ipReasmOKs	Sum, esgtpbh, espabh, espactbh, tot
ipReasmReqds	ACCUMULATION	INT8	Number IP fragments received which needed to be reassembled at this entity	IP.ipReasmReqds	Sum, esgtpbh, espabh, espactbh, tot

8.12.4 MagSlot_interface.Ericsson.UMTS.IP_Filtering_Slot

IP Filtering Slot statistics

KPI	Type	Data	Description	Derivation	Aggregation

		Type			
filterAllowedPacketsOnSlot	ACCUMULATION	INT8	Number of packets allowed by filter on this slot.	Filtering_Slot.filterAllowedPacketsOnSlot	Sum, esgtpbh, espabh, espactbh, tot
filterDeniedPacketsOnSlot	ACCUMULATION	INT8	Number of packets denied by filter on this slot.	Filtering_Slot.filterDeniedPacketsOnSlot	Sum, esgtpbh, espabh, espactbh, tot
filterIpsecPacketsOnSlot	ACCUMULATION	INT8	Number of packets classified as IPsec or GRE by filter on this slot.	Filtering_Slot.filterIpsecPacketsOnSlot	Sum, esgtpbh, espabh, espactbh, tot

8.12.5 MagSlot_interface.Ericsson.UMTS.Ipsec_and_GRE_Slot

IPsec and GRE slot protocol statistics

KPI	Type	Data Type	Description	Derivation	Aggregation
ipsecIncorrectPackets	ACCUMULATION	INT8	Number of packets not processed (cf. Packets processed - input ok packets - out ok packets)	Ipsec.ipsecIncorrectPackets	Sum, esgtpbh, espabh, espactbh, tot
ipsecIssIllegalSpi	ACCUMULATION	INT8	Number of incoming packets which spi does not have an SA in IPSEC SAD	Ipsec.ipsecIssIllegalSpi	Sum, esgtpbh, espabh, espactbh, tot
ipsecIssInOkPackets	ACCUMULATION	INT8	Number of packets which has been processed correctly, coming in	Ipsec.ipsecIssInOkPackets	Sum, esgtpbh, espabh, espactbh, tot
ipsecIssMd5Mismatch	ACCUMULATION	INT8	Number of times the comparison between the given value and the calculated (with md5 alg) value did not match	Ipsec.ipsecIssMd5Mismatch	Sum, esgtpbh, espabh, espactbh, tot
ipsecIssOutOkPackets	ACCUMULATION	INT8	Number of packets which has been processed correctly, going out	Ipsec.ipsecIssOutOkPackets	Sum, esgtpbh, espabh, espactbh, tot
ipsecIssSha1Mismatch	ACCUMULATION	INT8	Number of times the comparison between the given value and the calculated (with sha1 alg) value did not match	Ipsec.ipsecIssSha1Mismatch	Sum, esgtpbh, espabh, espactbh, tot

ipsecWaPacketsProcessed	ACCUMULATION	INT8	Randomize dropped packets during high CPU load. Incremented every time an IPSEC header is added or removed	Ipsec.ipsecWaPacketsProcessed	Sum, esgtpbh, espabh, espactbh, tot

8.12.6 MagSlot_interface.Ericsson.UMTS.OSPF_CPU

Open Shortest Path First (OSPF) routing protocol network statistics

KPI	Type	Data Type	Description	Derivation	Aggregation
ospfExternLsaCount	INTENSITY	INTEGER	Number of external (LS type 5) link-state advertisements in the link-state database	OSPF_slot.ospfExternLsaCount	Average, avg, esgtpbh, espabh, espactbh, max, min, tot
ospfOriginateNewLsas	ACCUMULATION	INT8	Number of new link-state advertisements (LSA) that have been originated	OSPF_slot.ospfOriginateNewLsas	Sum, avg, esgtpbh, espabh, espactbh, tot
ospfRxNewLsas	ACCUMULATION	INT8	Number of link-state advertisements received determined to be new instantiations (not include newer instantiations of self-originated link-state advertisements)	OSPF_slot.ospfRxNewLsas	Sum, avg, esgtpbh, espabh, espactbh, tot

8.12.7 MagSlot_interface.Ericsson.UMTS.SS7_Stack_for_UMTS

SS7 stack statistics for UMTS

KPI	Type	Data Type	Description	Derivation	Aggregation
ss7MessageOrigCR	ACCUMULATION	INT8	(Changed in R7.0 Moved to Signalling_Point object) Number of Connection Request messages sent.	SS7.ss7MessageOrigCR	Sum, es3gtpbh, es3pabh, es3pactbh, tot
ss7MessageOrigDT1	ACCUMULATION	INT8	(Changed in R7.0 Moved to Signalling_Point object) Number of Data Form 1 messages sent (Connection	SS7.ss7MessageOrigDT1	Sum, es3gtpbh, es3pabh, es3pactbh, tot

			Oriented data).		
ss7MessageOrigRLSD	ACCUMULATION	INT8	(Changed in R7.0 Moved to Signalling_Point object) Number of Released messages sent.	SS7.ss7MessageOrigRLSD	Sum, es3gtpbh, es3pabh, es3pactbh, tot
ss7MessageTermCR	ACCUMULATION	INT8	(Changed in R7.0 Moved to Signalling_Point object) Number of Connection Request messages received.	SS7.ss7MessageTermCR	Sum, es3gtpbh, es3pabh, es3pactbh, tot
ss7MessageTermDT1	ACCUMULATION	INT8	(Changed in R7.0 Moved to Signalling_Point object) Number of Data Form 1 messages received (Connection Oriented data).	SS7.ss7MessageTermDT1	Sum, es3gtpbh, es3pabh, es3pactbh, tot
ss7MessageTermRLSD	ACCUMULATION	INT8	(Changed in R7.0 Moved to Signalling_Point object) Number of Released messages received.	SS7.ss7MessageTermRLSD	Sum, es3gtpbh, es3pabh, es3pactbh, tot
ss7NoOfCurrRunConnTot	INTENSITY	INTEGER	(Changed in R7.0 Moved to Signalling_Point object) Number of currently running connections total.	SS7.ss7NoOfCurrRunConnTot	Average, avg, es3gtpbh, es3pabh, es3pactbh, max, min, tot

8.12.8 MagSlot_interface.Ericsson.UMTS.SS7_Stack

SS7 stack statistics

KPI	Type	Data Type	Description	Derivation	Aggregation
ss7MessageOrigUDT	ACCUMULATION	INT8	(Changed in R7.0 Moved to Signalling_Point object) Number of unit data (UDT) messages originated per class and source	SS7.ss7MessageOrigUDT	Sum, esgtpbh, espabh, espactbh, tot
ss7MessageOrigXUDT	ACCUMULATION	INT8	(Changed in R7.0 Moved to Signalling_Point object) Number of extended unit data (XUDT) messages originated per class and source	SS7.ss7MessageOrigXUDT	Sum, esgtpbh, espabh, espactbh, tot
ss7MessageTermUDT	ACCUMULATION	INT8	(Changed in R7.0 Moved to Signalling_Point object) Number of UDT messages terminated per class and sink	SS7.ss7MessageTermUDT	Sum, esgtpbh, espabh, espactbh, tot

ss7MessageTermXUDT	ACCUMULATION	INT8	(Changed in R7.0 Moved to Signalling_Point object) Number of XUDT messages, that are terminated	SS7.ss7MessageTermXUDT	Sum, esgtpbh, espabh, espactbh, tot
ss7MSUDiscardError	ACCUMULATION	INT8	(Changed in R7.0 Moved to SGSN object) Message signalling unit (MSU) is discarded due to routing data error	SS7.ss7MSUDiscardError	Sum, esgtpbh, espabh, espactbh, tot
ss7NoOfIncSegMes	ACCUMULATION	INT8	(Changed in R7.0 Moved to Signalling_Point object) Number of incoming segmented messages.	SS7.ss7NoOfIncSegMes	Sum, esgtpbh, espabh, espactbh, tot
ss7NoOfRunDialTot	INTENSITY	INTEGER	(Changed in R7.0 Moved to SGSN object) Number of running dialogues, total.	SS7.ss7NoOfRunDialTot	Average, avg, esgtpbh, espabh, espactbh, max, min, tot
ss7NoOfRunOpTot	INTENSITY	INTEGER	(Changed in R7.0 Moved to SGSN object) Number of running operations, total.	SS7.ss7NoOfRunOpTot	Average, avg, esgtpbh, espabh, espactbh, max, min, tot
ss7ProtocolErrorComp	ACCUMULATION	INT8	(Changed in R7.0 Moved to SGSN object) Protocol error detected in component portion	SS7.ss7ProtocolErrorComp	Sum, esgtpbh, espabh, espactbh, tot
ss7ProtocolErrorTraA	ACCUMULATION	INT8	(Changed in R7.0 Moved to SGSN object) Protocol error occurred, since P-abort is unrecognized transaction identity (TID)	SS7.ss7ProtocolErrorTraA	Sum, esgtpbh, espabh, espactbh, tot
ss7ProtocolErrorTraD	ACCUMULATION	INT8	(Changed in R7.0 Moved to SGSN object) Protocol error occurred, since P-abort is unrecognized message type	SS7.ss7ProtocolErrorTraD	Sum, esgtpbh, espabh, espactbh, tot
ss7SLFailure	ACCUMULATION	INT8	(Obsolete in R7.0 This has been replaced by ss7SLFailureNb and ss7SLFailureBb) Signalling link (SL) failure is detected	SS7.ss7SLFailure	Sum, esgtpbh, espabh, espactbh, tot
ss7SLRestoration	ACCUMULATION	INT8	(Obsolete in R7.0 This has been replaced by ss7SLRestorationNb and ss7SLRestorationBb) SL restoration has occurred	SS7.ss7SLRestoration	Sum, esgtpbh, espabh, espactbh, tot
ss7SPInaccess	ACCUMULATION	INT8	(Changed in R7.0 Moved to SGSN object) Adjacent signalling point (SP) is inaccessible	SS7.ss7SPInaccess	Sum, esgtpbh, espabh, espactbh, tot
ss7TCMessageReceive	ACCUMULATION	INT8	(Changed in R7.0 Moved to SGSN object) Number of TC messages received by the stack	SS7.ss7TCMessageReceive	Sum, esgtpbh, espabh, espactbh, tot
ss7TCMessageSent	ACCUMULATION	INT8	(Changed in R7.0 Moved to SGSN object) Number of transaction capability (TC) messages	SS7.ss7TCMessageSent	Sum, esgtpbh, espabh, espactbh, tot

			sent by the stack		

8.13 Narrowband_link Performance Indicators

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

- Narrowband_link.Ericsson.UMTS.SS7_narrowband_link

8.13.1 Narrowband_link.Ericsson.UMTS.SS7_narrowband_link

SS7 link statistics

KPI	Type	Data Type	Description	Derivation	Aggregation
ss7MessageReceivedPerLinkNb	ACCUMULATION	INT8	Number of MSU messages received on this narrowband link.	LinkNb.ss7MessageReceivedPerLinkNb	Sum, esgtpbh, espabh, espactbh, tot
ss7MessageSentPerLinkNb	ACCUMULATION	INT8	Number of MSU messages sent on this narrowband link.	LinkNb.ss7MessageSentPerLinkNb	Sum, esgtpbh, espabh, espactbh, tot
ss7OctetsReceivedPerLinkNb	ACCUMULATION	INT8	Number of KB received by MTP-L3 on a narrowband link.	LinkNb.ss7OctetsReceivedPerLinkNb	Sum, esgtpbh, espabh, espactbh, tot
ss7OctetsSentPerLinkNb	ACCUMULATION	INT8	Number of KB sent by MTP-L3 on a narrowband link.	LinkNb.ss7OctetsSentPerLinkNb	Sum, esgtpbh, espabh, espactbh, tot
ss7SLFailureNb	ACCUMULATION	INT8	The number of signalling link failures detected on a narrowband link. Planned Out-Of-Service situations commenced by deactivating the link is not counted. The counter is indexed per link.	LinkNb.ss7SLFailureNb	Sum, esgtpbh, espabh, espactbh, tot

ss7SLRestorationNb	ACCUMULATION	INT8	The number of signalling link restorations occurred on a narrowband link. All restorations are counted including when the link is restored after a planned Out-Of-Service situation. The counter is indexed per link.	LinkNb.ss7SLRestorationNb	Sum, esgtpbh, espabh, espactbh, tot

8.14 NSVC Performance Indicators

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

- NSVC.Ericsson.UMTS.BSSGP
- NSVC.Ericsson.UMTS.NSC

8.14.1 NSVC.Ericsson.UMTS.BSSGP

BSS GPRS Protocol (GPRS) statistics

KPI	Type	Data Type	Description	Derivation	Aggregation
bssgpDownlinkOctets	ACCUMULATION	INT8	The total number of downlink BSSGP octets per Network Service Entity (NSE).	BSBGP_NSVC.bssgpDownlinkOctets	Sum, esgtpbh, espabh, espactbh, tot
bssgpDownlinkPacketsBuffBucketFull	ACCUMULATION	INT8	Total number of IP packets	BSBGP_NSVC.bssgpDownlinkPacketsBuffBucketFull	Sum, esgtpbh, espabh,

			being buffered due to flow control. This counter is increased when buffering IP packets and either the BSS Cell bucket is full, the BSS MS bucket is full or when the BSS PFC bucket is full.		espactbh, tot
bssgpDownlinkPacketsBuffLlcSuspend	ACCUMULATION	INT8	Number of IP packets buffered due to suspended Logical Link Control (LLC) between MS and SGSN.	BSBGP_NSVC.bssgpDownlinkPacketsBuffLlcSuspend	Sum, esgtpbh, espabh, espactbh, tot
bssgpDownlinkPacketsBuff	ACCUMULATION	INT8	Total number of IP packets buffered. It is updated when downlink payload is buffered.	BSBGP_NSVC.bssgpDownlinkPacketsBuff	Sum, esgtpbh, espabh, espactbh, tot
bssgpDownlinkPacketsSignalling	ACCUMULATION	INT8	The number of downlink BSSGP signalling packets per	BSBGP_NSVC.bssgpDownlinkPacketsSignalling	Sum, esgtpbh, espabh, espactbh, tot

			NSE.		
bssgpDownlinkPackets	ACCUMULATION	INT8	The total number of downlink BSSGP packets per NSE.	BSBGP_NSVC.bssgpDownlinkPackets	Sum, esgtpbh, espabh, espactbh, tot
bssgpStatusBvcUnknown	ACCUMULATION	INT8	Number of BVC unknown BSSGP-STATUS messages sent to the Base Station Controller (BSC).	BSBGP_NSVC.bssgpStatusBvcUnknown	Sum, esgtpbh, espabh, espactbh, tot
bssgpUplinkOctets	ACCUMULATION	INT8	The total number of uplink BSSGP octets per NSE.	BSBGP_NSVC.bssgpUplinkOctets	Sum, esgtpbh, espabh, espactbh, tot
bssgpUplinkPacketsSignalling	ACCUMULATION	INT8	The number of uplink BSSGP signalling packets per NSE.	BSBGP_NSVC.bssgpUplinkPacketsSignalling	Sum, esgtpbh, espabh, espactbh, tot
bssgpUplinkPackets	ACCUMULATION	INT8	The total number of uplink BSSGP packets per NSE.	BSBGP_NSVC.bssgpUplinkPackets	Sum, esgtpbh, espabh, espactbh, tot
Total_BSSGP_Octets	ACCUMULATION	INT8	The total number of uplink and downlink	{bssgpUplinkOctets}+{bssgpDownlinkOctets}	Sum, esgtpbh, espabh, espactbh, tot

			BSSGP octets per NSE		
Total_BSSGP_Packets	ACCUMULATION	INT8	The total number of uplink and downlink BSSGP packets per NSE	{bssgpUplinkPackets}+{bssgpDownlinkPackets}	Sum, esgtpbh, espabh, espactbh, tot
Total_BSSGP_Signalling_Packets	ACCUMULATION	INT8	The total number of uplink and downlink BSSGP signalling packets per NSE	{bssgpUplinkPacketsSignalling}+{bssgpDownlinkPacketsSignalling}	Sum, esgtpbh, espabh, espactbh, tot

8.14.2 NSVC.Ericsson.UMTS.NSC

Network Service Virtual Connection statistics

KPI	Type	Data Type	Description	Derivation	Aggregation
nsDownlinkPacketsDiscarded	ACCUMULATION	INT8	The number of discarded packets in the NS layer due to congestion in the upper layer of the Frame Relay stack.	NSC_NSVC.nsDownlinkPacketsDiscarded	Sum, esgtpbh, espabh, espactbh, tot
nsDownlinkPackets	ACCUMULATION	INT8	The number of packets successfully transmitted from the Network Service (NS) layer to the upper layer of the Frame Relay stack.	NSC_NSVC.nsDownlinkPackets	Sum, esgtpbh, espabh, espactbh, tot

8.15 Processor Performance Indicators

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

8.15.1 Processor.Ericsson.UMTS.CPU_for_Interface_Board

(Obsolete in R8) Statistic measurement for the CPU usage for an Interface Board (IBxx)

KPI	Type	Data Type	Description	Derivation	Aggregation
snCpuUsageIB	INTENSITY	FLOAT	(Obsolete in R8) Current CPU usage per processor for an Interface Board (IBxx)	Ibxx.SYS_gsnCpuUsageIB	Average, avg, max, min

8.15.2 Processor.Ericsson.UMTS.Sys_Resource

System Resource for Interface Board (IBxx) or General Processing Board (GPB).

KPI	Type	Data Type	Description	Derivation	Aggregation
gsnCpuUsage	INTENSITY	FLOAT	Current CPU usage per processor for an IBxx or GPB.	Ibxx_GPB.SYS_gsnCpuUsage	Average, avg, max, min
gsnMemUsage	INTENSITY	FLOAT	Current Memory usage per processor for an IBxx or GPB. (not Power and Ethernet Board (PEB)).	Ibxx_GPB.SYS_gsnMemUsage	Average, avg, max, min
PayloadAllocationFailureG	ACCUMULATION	INTEGER	Number of deleted IP packets due to memory allocation failure.	Ibxx_GPB.SYS_PayloadAllocationFailure_G	Sum, avg, min

PayloadAllocationFailureU	ACCUMULATION	INTEGER	Number of deleted IP packets due to memory allocation failure.	Ibxx_GPB.SYS_PayloadAllocationFailure_U	Sum, avg, max, min

8.16 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.Ericsson.UMTS.Mobility_Management_for_UMTS
- Routing_Area.Ericsson.UMTS.Mobility_Management
- Routing_Area.Ericsson.UMTS.Session_management_for_UMTS
- Routing_Area.Ericsson.UMTS.Session_management

8.16.1 Routing_Area.Ericsson.UMTS.Mobility_Management_for_UMTS

Statistic measurements for the mobility management for the UMTS network

KPI	Type	Data Type	Description	Derivation	Aggregation
_%_MM_SuccGprsDetachSgsn_U	PERCENTAGE	FLOAT	Percentage of successful completed SGSN-initiated GPRS detach procedures within this SGSN area.	100 * {MM_SuccGprsDetachSgsn_U}/{AttGprsDetachSgsn}	Average, avg, es3gtpbh, es3pabh, es3pactbh
_%_MM_SuccNormalIntraSgsnRaUpdate_U	PERCENTAGE	FLOAT	Percentage of successful normal intra-SGSN RA Update procedures initiated in this SGSN.	100 * {MM_SuccNormalIntraSgsnRaUpdate_U}/{MM_AttNormalIntraSgsnRaUpdate_U}	Average, avg, es3gtpbh, es3pabh, es3pactbh
_%_SuccGprsAttach	PERCENTAGE	FLOAT	Percentage of successful performed GPRS Attach procedures initiated in this SGSN area.	100 * {SuccGprsAttach}/{AttGprsAttach}	Average, avg, es3gtpbh, es3pabh, es3pactbh
_%_SuccInterSgsnRaUpda	PERCENTAGE	FLOAT	Percentage of successful	100 *	Average, avg, es3gtpbh,

te			completed Inter-SGSN Routing Area Update Procedures initiated in this SGSN area.	{SuccInterSgsnRaUpdate} /{AttInterSgsnRaUpdate}	es3pabh, es3pactbh
_%_SuccIntraSgsnRaUpdate	PERCENTAGE	FLOAT	Percentage of successful performed Intra-SGSN Routing Area Update procedures initiated in this SGSN area.	100 * {SuccIntraSgsnRaUpdate} /{AttIntraSgsnRaUpdate}	Average, avg, es3gtpbh, es3pabh, es3pactbh
_%_SuccPsPagingProcIu	PERCENTAGE	FLOAT	Percentage of successful PS paging procedures that are initiated at the SGSN, over the Iu interface.	100 * {SuccPsPagingProcIu}/{AttPsPagingProcIu}	Average, avg, es3gtpbh, es3pabh, es3pactbh
AttGprsAttach	ACCUMULATION	INT8	Attempted GPRS Attach procedures initiated in this SGSN area. Both sending and re-sending from MSs are counted.	MM_IndexU.MM_AttGprsAttach_U	Sum, es3gtpbh, es3pabh, es3pactbh, tot
AttGprsDetachMs	ACCUMULATION	INT8	MS initiated GPRS Detach procedures within the SGSN area. Both sending and re-sending from MSs are counted.	MM_IndexU.MM_AttGprsDetachMs_U	Sum, es3gtpbh, es3pabh, es3pactbh, tot
AttGprsDetachSgsn	ACCUMULATION	INT8	Attempted GPRS Detach procedures initiated by SGSN. The counter is not incremented when re-sending Detach Request to the MS.	MM_IndexU.MM_AttGprsDetachSgsn_U	Sum, es3gtpbh, es3pabh, es3pactbh, tot
AttInterSgsnRaUpdate	ACCUMULATION	INT8	Attempted Inter-SGSN Routing Area Update procedures initiated in this SGSN area. Both sending and re-sending from MSs are counted.	MM_IndexU.MM_AttInterSgsnRaUpdate_U	Sum, es3gtpbh, es3pabh, es3pactbh, tot
AttIntraSgsnRaUpdate	ACCUMULATION	INT8	Attempted Intra-SGSN Routing Area Update procedures initiated in this SGSN area. Both sending	MM_IndexU.MM_AttIntraSgsnRaUpdate_U	Sum, es3gtpbh, es3pabh, es3pactbh, tot

			and re-sending from MSs are counted. All types of Intra-SGSN RA Update requests are counted: Normal RA Update, Periodic RA Update and RA Update acting as resume of a suspended MS.		
AttPsPagingProcIu	ACCUMULATION	INT8	Total number of PS paging procedures that are initiated at the SGSN, over the Iu interface. A paging procedure means that the counter is incremented once when sending the first set of paging (that is 3 paging messages with new P-TMSI and possibly 2 paging messages with old P-TMSI). A new paging set (triggered by a new DL PDU) is regarded as a new procedure. Paging with IMSI (due to abnormal situation) is also regarded as a new procedure.	MM_IndexU.MM_AttPsPagingProcIu	Sum, es3gtpbh, es3pabh, es3pactbh, tot
MM_AttNormalIntraSgsnRaUpdate_U	ACCUMULATION	INT8	The number of attempted normal intra-SGSN RA Update procedures initiated in this SGSN. Periodic RA updates are not counted. Resending from MSs are also counted.	MM_IndexU.MM_AttNormalIntraSgsnRaUpdate_U	Sum, es3gtpbh, es3pabh, es3pactbh, tot
MM_NbrActAttachedSubRA_U	INTENSITY	INTEGER	The number of attached subscribers per RA within this SGSN. Default Alarm Triggering Level: 90pc of the limit for attached subscribers depending on HW and the size of the scalable SGSN. Default Alarm Clearing Level: 85pc of the limit for attached	MM_IndexU.MM_NbrActAttachedSubRA_U	Average, avg, es3gtpbh, es3pabh, es3pactbh, max, min, tot

			subscribers depending on HW and the size of the scalable SGSN. Severity: Minor Default Supervision Active: False		
MM_SuccFirstPsPagingIu	ACCUMULATION	INT8	Number of successful first paging messages in the PS paging procedure.	MM_IndexU.MM_SuccFirstPsPagingIu	Sum, es3gtpbh, es3pabh, es3pactbh, tot
MM_SuccGprsDetachSgsn_U	ACCUMULATION	INT8	The number of successfully completed SGSN-initiated GPRS detach procedures within this SGSN area.	MM_IndexU.MM_SuccGprsDetachSgsn_U	Sum, es3gtpbh, es3pabh, es3pactbh, tot
MM_SuccNormalIntraSgsnRaUpdate_U	ACCUMULATION	INT8	The number of successfully performed normal intra-SGSN RA Update procedures initiated in this SGSN. Periodic RA updates and RA updates acting as resume of a suspended MS are not counted. The counter is not stepped when resending RA Update Accept to the MS.	MM_IndexU.MM_SuccNormalIntraSgsnRaUpdate_U	Sum, es3gtpbh, es3pabh, es3pactbh, tot
SuccGprsAttach	ACCUMULATION	INT8	Successfully performed GPRS Attach procedures initiated in this SGSN area.	MM_IndexU.MM_SuccGprsAttach_U	Sum, es3gtpbh, es3pabh, es3pactbh, tot
SuccInterSgsnRaUpdate	ACCUMULATION	INT8	Successfully completed Inter-SGSN Routing Area Update Procedures initiated in this SGSN area.	MM_IndexU.MM_SuccInterSgsnRaUpdate_U	Sum, es3gtpbh, es3pabh, es3pactbh, tot
SuccIntraSgsnRaUpdate	ACCUMULATION	INT8	successfully performed Intra-SGSN Routing Area Update procedures initiated in this SGSN area.	MM_IndexU.MM_SuccIntraSgsnRaUpdate_U	Sum, es3gtpbh, es3pabh, es3pactbh, tot
SuccPsPagingProcIu	ACCUMULATION	INT8	Total number of successful PS paging procedures that are initiated at the SGSN, over the Iu interface.	MM_IndexU.MM_SuccPsPagingProcIu	Sum, es3gtpbh, es3pabh, es3pactbh, tot

8.16.2 Routing_Area.Ericsson.UMTS.Mobility_Management

Statistic measurements for the mobility management

KPI	Type	Data Type	Description	Derivation	Aggregation
_%_MM_SuccCombiInterSgsnRaUpdate_G	PERCENTAGE	FLOAT	Percentage of successful combined RA/LA updates (inter-SGSN) procedures initiated in the SGSN.	100 * {MM_SuccCombiInterSgsnRaUpdate_G}/{MM_AttCombiInterSgsnRaUpdate_G}	Average, avg, esgtpbh, espabh, espactbh
_%_MM_SuccCombiIntraSgsnRaUpdate_G	PERCENTAGE	FLOAT	Percentage of successful combined RA/LA updates (intra-SGSN) procedures initiated in the SGSN.	100 * {MM_SuccCombiIntraSgsnRaUpdate_G}/{MM_AttCombiIntraSgsnRaUpdate_G}	Average, avg, esgtpbh, espabh, espactbh
_%_MM_SuccGprsDetachSgsn	PERCENTAGE	FLOAT	Percentage of successful completed SGSN-initiated GPRS detach procedures within this SGSN area.	100 * {MM_SuccGprsDetachSgsn}/{AttGprsDetachSgsn}	Average, avg, esgtpbh, espabh, espactbh
_%_MM_SuccNormalIntraSgsnRaUpdate_G	PERCENTAGE	FLOAT	Percentage of successful normal intra-SGSN Routing Area Update procedures initiated in this SGSN.	100 * {MM_SuccNormalIntraSgsnRaUpdate_G}/{MM_AttNormalIntraSgsnRaUpdate_G}	Average, avg, esgtpbh, espabh, espactbh
_%_SuccGprsAttach	PERCENTAGE	FLOAT	Percentage of successful performed GPRS Attach procedures initiated in this SGSN area.	100 * {SuccGprsAttach}/{AttGprsAttach}	Average, avg, esgtpbh, espabh, espactbh
_%_SuccInterSgsnRaUpdate	PERCENTAGE	FLOAT	Percentage of successful completed Inter-SGSN Routing Area Update Procedures initiated in this SGSN area.	100 * {SuccInterSgsnRaUpdate} /{AttInterSgsnRaUpdate}	Average, avg, esgtpbh, espabh, espactbh
_%_SuccIntraSgsnRaUpdate	PERCENTAGE	FLOAT	Percentage of successful performed Intra-SGSN Routing Area Update procedures initiated in this SGSN area.	100 * {SuccIntraSgsnRaUpdate} /{AttIntraSgsnRaUpdate}	Average, avg, esgtpbh, espabh, espactbh
_%_SuccPsPagingProcGb	PERCENTAGE	FLOAT	Percentage of successful	100 *	Average, avg, esgtpbh,

			PS paging procedures that are initiated at the SGSN, over the Gb interface.	{SuccPsPagingProcGb}/{AttPsPagingProcGb}	espabh, espactbh
AttGprsAttach	ACCUMULATION	INT8	Attempted GPRS Attach procedures initiated within this SGSN area. Both sending and re-sending from MSs are counted.	MM_IndexG.MM_AttGprsAttach_G	Sum, esgtpbh, espabh, espactbh, tot
AttGprsDetachMs	ACCUMULATION	INT8	MS initiated GPRS Detach procedures within the SGSN area. Both sending and re-sending from MSs are counted.	MM_IndexG.MM_AttGprsDetachMs_G	Sum, esgtpbh, espabh, espactbh, tot
AttGprsDetachSgsn	ACCUMULATION	INT8	Attempted GPRS detach procedures initiated by SGSN.	MM_IndexG.MM_AttGprsDetachSgsn_G	Sum, esgtpbh, espabh, espactbh, tot
AttInterSgsnRaUpdate	ACCUMULATION	INT8	Attempted Inter-SGSN Routing Area Update procedures initiated in this SGSN area. Both sending and re-sending from MSs are counted.	MM_IndexG.MM_AttInterSgsnRaUpdate_G	Sum, esgtpbh, espabh, espactbh, tot
AttIntraSgsnRaUpdate	ACCUMULATION	INT8	Attempted Intra-SGSN Routing Area Update procedures initiated in this SGSN area. Both sending and re-sending from MSs are counted. All types of Intra-SGSN RA Update requests are counted: Normal RA Update, Periodic RA Update and RA Update acting as resume of a suspended MS.	MM_IndexG.MM_AttIntraSgsnRaUpdate_G	Sum, esgtpbh, espabh, espactbh, tot
AttPsPagingProcGb	ACCUMULATION	INT8	Total number of Packet-Switched (PS) paging procedures that are initiated at the SGSN, over the Gb interface. A paging procedure means that the	MM_IndexG.MM_AttPsPagingProcGb	Sum, esgtpbh, espabh, espactbh, tot

			counter is incremented once when sending the first set of paging (that is 3 paging messages with new P-TMSI and possibly 2 paging messages with old P-TMSI). A new paging set (triggered by a new DL PDU) is regarded as a new procedure. Paging with IMSI (due to abnormal situation) is also regarded as a new procedure.		
MM_AttCombiInterSgsnRaUpdate_G	ACCUMULATION	INT8	The number of combined RA/LA updates (inter-SGSN) procedures initiated in the SGSN.	MM_IndexG.MM_AttCombiInterSgsnRaUpdate_G	Sum, esgtpbh, espabh, espactbh, tot
MM_AttCombiIntraSgsnRaUpdate_G	ACCUMULATION	INT8	The number of combined RA/LA updates (intra-SGSN) procedures initiated in the SGSN.	MM_IndexG.MM_AttCombiIntraSgsnRaUpdate_G	Sum, esgtpbh, espabh, espactbh, tot
MM_AttImsiCombiInterSgsnRaUpdate_G	ACCUMULATION	INT8	The number of combined RA/LA updates with IMSI attach (inter-SGSN) procedures initiated in the SGSN.	MM_IndexG.MM_AttImsiCombiInterSgsnRaUpdate_G	Sum, esgtpbh, espabh, espactbh, tot
MM_AttImsiCombiIntraSgsnRaUpdate_G	ACCUMULATION	INT8	The number of combined RA/LA updates with IMSI attach (intra-SGSN) procedures initiated in the SGSN.	MM_IndexG.MM_AttImsiCombiIntraSgsnRaUpdate_G	Sum, esgtpbh, espabh, espactbh, tot
MM_AttIntraSgsnRaUpdate_G	ACCUMULATION	INT8	Obsolete in R6.0. The number of attempted Intra-SGSN Routing Area Update procedures initiated in this SGSN area. Both sending and resending from MSs are counted. All types of Intra-SGSN RA Update requests are counted: Normal RA	MM_IndexG.MM_AttIntraSgsnRaUpdate_G	Sum, esgtpbh, espabh, espactbh, tot

			Update, Periodic RA Update and RA Update acting as resume of a suspended MS.		
MM_AttNormalIntraSgsnRaUpdate_G	ACCUMULATION	INT8	The number of attempted normal intra-SGSN RA Update procedures initiated in this SGSN. Periodic RA updates are not counted. Resending from MSs are also counted.	MM_IndexG.MM_AttNormalIntraSgsnRaUpdate_G	Sum, esgtpbh, espabh, espactbh, tot
MM_NbrActAttachedSubRA_G	INTENSITY	INTEGER	The number of attached subscribers per RA within this SGSN. Default Alarm Triggering Level: 90pc of the limit for attached subscribers depending on HW and the size of the scalable SGSN. Default Alarm Clearing Level: 85pc of the limit for attached subscribers depending on HW and the size of the scalable SGSN. Severity: Minor Default Supervision Active: True	MM_IndexG.MM_NbrActAttachedSubRA_G	Average, avg, esgtpbh, espabh, espactbh, max, min, tot
MM_SuccCombiInterSgsnRaUpdate_G	ACCUMULATION	INT8	The number of successfully performed combined RA/LA updates (inter-SGSN) procedures initiated in the SGSN.	MM_IndexG.MM_SuccCombiInterSgsnRaUpdate_G	Sum, esgtpbh, espabh, espactbh, tot
MM_SuccCombiIntraSgsnRaUpdate_G	ACCUMULATION	INT8	The number of successfully performed combined RA/LA updates (intra-SGSN) procedures initiated in the SGSN.	MM_IndexG.MM_SuccCombiIntraSgsnRaUpdate_G	Sum, esgtpbh, espabh, espactbh, tot
MM_SuccFirstPsPagingGb	ACCUMULATION	INT8	Number of successful first paging messages in the Packet-Switched (PS) paging procedure.	MM_IndexG.MM_SuccFirstPsPagingGb	Sum, esgtpbh, espabh, espactbh, tot

MM_SuccGprsDetachSgsn	ACCUMULATION	INT8	The number of successfully completed SGSN-initiated GPRS detach procedures within this SGSN area.	MM_IndexG.MM_SuccGprsDetachSgsn_G	Sum, esgtpbh, espabh, espactbh, tot
MM_SuccNormalIntraSgsnRaUpdate_G	ACCUMULATION	INT8	The number of successfully performed normal intra-SGSN Routing Area Update procedures initiated in this SGSN. Periodic RA Updates and RA Updates acting as resume of a suspended MS are not counted. The counter is not stepped when resending RA Update Accept to the MS.	MM_IndexG.MM_SuccNormalIntraSgsnRaUpdate_G	Sum, esgtpbh, espabh, espactbh, tot
SuccGprsAttach	ACCUMULATION	INT8	Successfully performed GPRS Attach procedures initiated in this SGSN area.	MM_IndexG.MM_SuccGprsAttach_G	Sum, esgtpbh, espabh, espactbh, tot
SuccInterSgsnRaUpdate	ACCUMULATION	INT8	Successfully completed Inter-SGSN Routing Area Update Procedures initiated in this SGSN area.	MM_IndexG.MM_SuccInterSgsnRaUpdate_G	Sum, esgtpbh, espabh, espactbh, tot
SuccIntraSgsnRaUpdate	ACCUMULATION	INT8	successfully performed Intra-SGSN Routing Area Update procedures initiated in this SGSN area.	MM_IndexG.MM_SuccIntraSgsnRaUpdate_G	Sum, esgtpbh, espabh, espactbh, tot
SuccPsPagingProcGb	ACCUMULATION	INT8	Total number of successful PS paging procedures that are initiated at the SGSN, over the Gb interface.	MM_IndexG.MM_SuccPsPagingProcGb	Sum, esgtpbh, espabh, espactbh, tot

8.16.3 Routing_Area.Ericsson.UMTS.Session_management_for_UMTS

Statistic measurements for the session management for the UMTS network.

KPI	Type	Data Type	Description	Derivation	Aggregation

_%_SM_SuccActPdpContextRa_U	PERCENTAGE	FLOAT	Percentage of successfully completed primary PDP context activations per RA within this SGSN. For these context activations, the GGSN is updated successfully.	100 * {SM_SuccActPdpContextRa_U}/{SM_AttActPdpContextRa_U}	Average, avg, es3gtpbh, es3pabh, es3pactbh
SM_AttActPdpContextRa_U	ACCUMULATION	INT8	The number of attempted primary PDP context activation procedures per RA within this SGSN. These include the static as well as the dynamic PDP addresses. The counter is incremented as the SGSN identifies the message as a RIL3 Activate PDP Context Request message.	SM_Index.SM_AttActPdpContextRa_U	Sum, es3gtpbh, es3pabh, es3pactbh, tot
SM_SuccActPdpContextRa_U	ACCUMULATION	INT8	The number of successfully completed primary PDP context activations per RA within this SGSN. For these context activations, the GGSN is updated	SM_Index.SM_SuccActPdpContextRa_U	Sum, es3gtpbh, es3pabh, es3pactbh, tot

			successfully.		

8.16.4 Routing_Area.Ericsson.UMTS.Session_management

Statistic measurements for the session management.

KPI	Type	Data Type	Description	Derivation	Aggregation
_%_SM_SuccActPdpContextRa_G	PERCENTAGE	FLOAT	Percentage of successfully completed primary PDP context activations per RA within this SGSN. For these context activations, the GGSN is updated successfully.	100 * {SM_SuccActPdpContextRa_G}/{SM_AttActPdpContextRa_G}	Average, avg, esgtpbh, espabh, espactbh
SM_AttActPdpContextRa_G	ACCUMULATION	INT8	The number of attempted primary PDP context activation procedures per RA within this SGSN. These include the static as well as the dynamic PDP addresses. The counter is incremented as the SGSN identifies the message as a RIL3 Activate PDP Context	SM_Index.SM_AttActPdpContextRa_G	Sum, esgtpbh, espabh, espactbh, tot

			Request message.		
SM_SuccActPdpContextRa_G	ACCUMULATION	INT8	The number of successfully completed primary PDP context activations per RA within this SGSN. For these context activations, the GGSN is updated successfully.	SM_Index.SM_SuccActPdpContextRa_G	Sum, esgtpbh, espabh, espactbh, tot

8.17 Security_Association Performance Indicators

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

- Security_Association.Ericsson.UMTS.IP_Security_Association

8.17.1 Security_Association.Ericsson.UMTS.IP_Security_Association

IP security association statistics

KPI	Type	Data Type	Description	Derivation	Aggregation
ipsecSaCurrentBytes	ACCUMULATION	INT8	Number of bytes transferred on this security association (SA) so far	IPSec_SA.ipsecSaCurrentBytes	Sum, esgtpbh, espabh, espactbh, tot
ipsecSaPacketsNotOk	ACCUMULATION	INT8	Number of incorrect packets processed associated with the current security association	IPSec_SA.ipsecSaPacketsNotOk	Sum, esgtpbh, espabh, espactbh, tot

			(SA)		
ipsecSaPacketsOk	ACCUMULATION	INT8	Number of correct packets processed associated with the current security association (SA)	IPSec_SA.ipsecSaPacketsOk	Sum, esgtpbh, espabh, espactbh, tot

8.18 SGSN Performance Indicators

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

- SGSN.Ericsson.UMTS.BSSGP
- SGSN.Ericsson.UMTS.CAMEL_UMTS
- SGSN.Ericsson.UMTS.CAMEL
- SGSN.Ericsson.UMTS.EIR
- SGSN.Ericsson.UMTS.GSN_Overload_Protection
- SGSN.Ericsson.UMTS.GTP_payload_for_UMTS
- SGSN.Ericsson.UMTS.GTP_payload
- SGSN.Ericsson.UMTS.Logical_link_control
- SGSN.Ericsson.UMTS.MBMS_PerfMonitoring
- SGSN.Ericsson.UMTS.Mobility_Management_for_UMTS
- SGSN.Ericsson.UMTS.Mobility_Management
- SGSN.Ericsson.UMTS.MS_connections_for_UMTS
- SGSN.Ericsson.UMTS.MS_connections
- SGSN.Ericsson.UMTS.MS_security_for_UMTS
- SGSN.Ericsson.UMTS.MS_Security
- SGSN.Ericsson.UMTS.Performance_Monitoring
- SGSN.Ericsson.UMTS.QoS_for_UMTS
- SGSN.Ericsson.UMTS.QoS
- SGSN.Ericsson.UMTS.Session_management_for_UMTS
- SGSN.Ericsson.UMTS.Session_management
- SGSN.Ericsson.UMTS.Short_messages_for_UMTS
- SGSN.Ericsson.UMTS.Short_Message
- SGSN.Ericsson.UMTS.SS7_Stack
- SGSN.Ericsson.UMTS.Subnetwork_dependent_convergence_protocol
- SGSN.Ericsson.UMTS.WCDMA_GSM_Intersystem_Change

8.18.1 SGSN.Ericsson.UMTS.BSSGP

BSS GPRS Protocol (GPRS) statistics

KPI	Type	Data Type	Description	Derivation	Aggregation
bssgpAttResumeProc	ACCUMULATION	INT8	The number of attempted BSS GPRS Protocol (BSSGP) resume procedures.	BSBGP_SGSN.bssgpAttResumeProc	Sum, esgtpbh, espabh, espactbh, tot
bssgpAttSuspendProc	ACCUMULATION	INT8	The total number of downlink BSSGP suspend procedures	BSBGP_SGSN.bssgpAttSuspendProc	Sum, esgtpbh, espabh, espactbh, tot
bssgpDownlinkPacketsBuffMobileSuspend	ACCUMULATION	INT8	Counter will be increased when buffering packets and the last reason for delay was the MS that has suspended GPRS.	BSBGP_SGSN.bssgpDownlinkPacketsBuffMobileSuspend	Sum, esgtpbh, espabh, espactbh, tot
bssgpDownlinkPacketsBuffSnapshot	INTENSITY	INT8	Number of IP packets currently	BSBGP_SGSN.bssgpDownlinkPacketsBuffSnapshot	Average, esgtpbh, espabh,

			being buffered.		espactbh, tot
bssgpDownlinkPacketsDiscardedBucketFull	ACCUMULATION	INT8	Total number of discarded IP packets due to Bucket Full.	BSBGP_SGSN.bssgpDownlinkPacketsDiscardedBucketFull	Sum, esgtpbh, espabh, espactbh, tot
bssgpDownlinkPacketsDiscardedBvcBlocked	ACCUMULATION	INT8	Number of discarded packets due to blocked BVCs.	BSBGP_SGSN.bssgpDownlinkPacketsDiscardedBvcBlocked	Sum, esgtpbh, espabh, espactbh, tot
bssgpDownlinkPacketsDiscardedMobileSuspend	ACCUMULATION	INT8	Number of discarded IP packets due to suspended mobile.	BSBGP_SGSN.bssgpDownlinkPacketsDiscardedMobileSuspend	Sum, esgtpbh, espabh, espactbh, tot
bssgpDownlinkPacketsDiscardLlcSuspended	ACCUMULATION	INT8	Number of Internet Protocol (IP) packets discarded due to suspended LLC between Mobile Station (MS) and Serving GPRS Support Node (SGSN).	BSBGP_SGSN.bssgpDownlinkPacketsDiscardLlcSuspended	Sum, esgtpbh, espabh, espactbh, tot

8.18.2 SGSN.Ericsson.UMTS.CAMEL_UMTS

Statistic measurements for UMTS CAMEL dialogs

KPI	Type	Data Type	Description	Derivation	Aggregation
AttCamelDialogues	ACCUMULATION	INT8	Number of CAMEL dialogue attempts.	CAMEL.CAM_AttCamelDialogues_U	Sum, es3gtpbh, es3pabh, es3pactbh, tot
FailDialoguesScf	ACCUMULATION	INT8	Number of failed CAMEL dialogues, error or reject from gsmSCF.	CAMEL.CAM_FailDialoguesScf_U	Sum, es3gtpbh, es3pabh, es3pactbh, tot
FailDialoguesSsf	ACCUMULATION	INT8	Number of failed CAMEL dialogues, aborted locally by gprsSSF.	CAMEL.CAM_FailDialoguesSsf_U	Sum, es3gtpbh, es3pabh, es3pactbh, tot

8.18.3 SGSN.Ericsson.UMTS.CAMEL

Statistic measurements for the CAMEL dialogs

KPI	Type	Data Type	Description	Derivation	Aggregation
AttCamelDialogues	ACCUMULATION	INT8	Number of CAMEL dialogue attempts.	CAMEL.CAM_AttCamelDialogues_G	Sum, esgtpbh, espabh, espactbh, tot
FailDialoguesScf	ACCUMULATION	INT8	Number of failed CAMEL dialogues, error or reject from gsmSCF.	CAMEL.CAM_FailDialoguesScf_G	Sum, esgtpbh, espabh, espactbh, tot
FailDialoguesSsf	ACCUMULATION	INT8	Number of failed CAMEL dialogues, aborted locally by gprsSSF.	CAMEL.CAM_FailDialoguesSsf_G	Sum, esgtpbh, espabh, espactbh, tot

8.18.4 SGSN.Ericsson.UMTS.EIR

IMEI verification related response from EIR

KPI	Type	Data Type	Description	Derivation	Aggregation
nbrOfBlackAnswerInSgsn	ACCUMULATION	INT8	The number of black list answers received from the EIR. Note: The counter contains a total count for both GSM and WCDMA.	EQUIP.nbrOfBlackAnswerInSgsn	Sum, esgtpbh, espabh, espactbh, tot
nbrOfCheckIMEIRequest	ACCUMULATION	INT8	The number of check IMEI requests sent to the EIR. Note that the counter contains a total count for both GSM and WCDMA.	EQUIP.nbrOfCheckIMEIRequest	Sum, esgtpbh, espabh, espactbh, tot
nbrOfGreyAnswerInSgsn	ACCUMULATION	INT8	The number of grey list answers received from the EIR. Note: The counter contains a total count for both GSM and WCDMA.	EQUIP.nbrOfGreyAnswerInSgsn	Sum, esgtpbh, espabh, espactbh, tot
nbrOfUnknownAnswerInSgsn	ACCUMULATION	INT8	The number of unknown IMEI answers received from the EIR. Note that the counter contains a total count for both GSM and WCDMA.	EQUIP.nbrOfUnknownAnswerInSgsn	Sum, esgtpbh, espabh, espactbh, tot
nbrOfWhiteAnswerInSgsn	ACCUMULATION	INT8	The number of white list answers received from the EIR. Note! The counter contains a total count for both GSM and WCDMA.	EQUIP.nbrOfWhiteAnswerInSgsn	Sum, esgtpbh, espabh, espactbh, tot

8.18.5 SGSN.Ericsson.UMTS.GSN_Overload_Protection

Statistic measurements for the GSN Overload Protection

KPI	Type	Data Type	Description	Derivation	Aggregation
gsnOverloadProtectionIgnoredExistingConnections	ACCUMULATION	INT8	Counter is incremented when a request for an existing connection is ignored on the GPB	Overload.gsnOverloadProtectionIgnoredExistingConnections	Sum, esgtpbh, espabh, espactbh, tot

			with local functions, that is, it processes traffic control functions, which may be distributed onto all GPBs.		
gsnOverloadProtectionIgnoredNewConnections	ACCUMULATION	INT8	Counter is incremented when a request for a new connection is ignored on the GPB with local functions, that is, it processes traffic control functions, which may be distributed onto all GPBs.	Overload.gsnOverloadProtectionIgnoredNewConnections	Sum, esgtpbh, espabh, espactbh, tot
gsnOverloadProtectionSs7MessageReject_1	ACCUMULATION	INTEGER	Counter is incremented when an outgoing TCAP or SCCP request message has been rejected by SGSN due to an	Overload.gsnOverloadProtectionSs7MessageReject_1	Sum, esgtpbh, espabh, espactbh, tot

			overload situation (Priority 1).		
gsnOverloadProtectionSs7MessageReject_2	ACCUMULATION	INTEGER	Counter is incremented when an outgoing TCAP or SCCP request message has been rejected by SGSN due to an overload situation (Priority 2).	Overload.gsnOverloadProtectionSs7MessageReject_2	Sum, esgtpbh, espabh, espactbh, tot
gsnOverloadProtectionSs7MessageReject_3	ACCUMULATION	INTEGER	Counter is incremented when an outgoing TCAP or SCCP request message has been rejected by SGSN due to an overload situation (Priority 3).	Overload.gsnOverloadProtectionSs7MessageReject_3	Sum, esgtpbh, espabh, espactbh, tot
gsnOverloadProtectionSs7MessageReject_4	ACCUMULATION	INTEGER	Counter is incremented when an outgoing TCAP or SCCP request message has been rejected by	Overload.gsnOverloadProtectionSs7MessageReject_4	Sum, esgtpbh, espabh, espactbh, tot

			SGSN due to an overload situation (Priority 4).		
gsnOverloadProtectionSs7MessageReject_5	ACCUMULATION	INTEGER	Counter is incremented when an outgoing TCAP or SCCP request message has been rejected by SGSN due to an overload situation (Priority 5).	Overload.gsnOverloadProtectionSs7MessageReject_5	Sum, esgtpbh, espabh, espactbh, tot
gsnOverloadProtectionSs7MessageReject	ACCUMULATION	INT8	Counter is incremented when an outgoing TCAP or SCCP request message has been rejected by SGSN due to an overload situation (Total all priorities 1-5).	Overload.gsnOverloadProtectionSs7MessageReject_1 + gsnOverloadProtectionSs7MessageReject_2 + gsnOverloadProtectionSs7MessageReject_3 + gsnOverloadProtectionSs7MessageReject_4 + gsnOverloadProtectionSs7MessageReject_5	Sum, esgtpbh, espabh, espactbh, tot

8.18.6 SGSN.Ericsson.UMTS.GTP_payload_for_UMTS

Statistic measurements for the GPRS Tunnelling Protocol data on the UMTS network

KPI	Type	Data Type	Description	Derivation	Aggregation
GTPDLPktBuffU	INTENSITY	INT8	Number of IP packets currently being buffered in downlink direction.	GTP.GTP_DownlinkPacketsBuff_U	Average, es3gtpbh, es3pabh, es3pactbh, tot
GTPMBMSOutDataPktIu	ACCUMULATION	INT8	Number of MBMS bearer context GTP data PDUs which have been generated by the GTP-U protocol entity on the Iu interface.	GTP.GTP_MBMSOutDataPktIu	Sum, es3gtpbh, es3pabh, es3pactbh, tot
GTPTotalDLPktBuffU	ACCUMULATION	INT8	Total number of IP packets buffered.	GTP.GTP_TotalDownlinkPacketsBuff_U	Sum, es3gtpbh, es3pabh, es3pactbh, tot
GTPtpuInDataOctIu	ACCUMULATION	INT8	Number of octets of incoming GTP data packets on the Iu interface	GTP.GTP_GtpuInDataOctIu	Sum, es3gtpbh, es3pabh, es3pactbh, pcl95, tot
GTPtpuInDataPktIu	ACCUMULATION	INT8	Number of incoming GTP data packets on the Iu interface	GTP.GTP_GtpuInDataPktIu	Sum, es3gtpbh, es3pabh, es3pactbh, tot
GTPtpuOutDataOctIu	ACCUMULATION	INT8	Number of octets of outgoing GTP data packets on the Iu interface	GTP.GTP_GtpuOutDataOctIu	Sum, es3gtpbh, es3pabh, es3pactbh, pcl95, tot
GTPtpuOutDataPktIu	ACCUMULATION	INT8	Number of outgoing GTP data packets on the Iu interface	GTP.GTP_GtpuOutDataPktIu	Sum, es3gtpbh, es3pabh, es3pactbh, tot
Tot_DatOctIu	ACCUMULATION	INT8	Total incoming and outgoing GTP octets	{GTPtpuInDataOctIu}+{GTPtpuOutDataOctIu}	Sum, es3gtpbh, es3pabh, es3pactbh, pcl95, tot

8.18.7 SGSN.Ericsson.UMTS.GTP_payload

Statistic measurements for the GPRS Tunnelling Protocol data

KPI	Type	Data Type	Description	Derivation	Aggregation
InDataOctGn	ACCUMULATION	INT8	Number of octets of incoming GTP data packets on the Gn interface	GTP.GTP_InDataOctGn	Sum, esgtpbh, espabh, espactbh, pcl95, tot
InDataPktGn	ACCUMULATION	INT8	Number of incoming GTP data packets on the Gn interface	GTP.GTP_InDataPktGn	Sum, esgtpbh, espabh, espactbh, tot
MBMSInDataPktGn	ACCUMULATION	INT8	Number of GTP data PDUs for MBMS bearer contexts which have been accepted and processed by the GTP entity on the Gn interface.	GTP.GTP_MBMSInDataPktGn	Sum, esgtpbh, espabh, espactbh, tot
OutDataOctGn	ACCUMULATION	INT8	Number of octets of outgoing GTP data packets on the Gn interface	GTP.GTP_OutDataOctGn	Sum, esgtpbh, espabh, espactbh, pcl95, tot
OutDataPktGn	ACCUMULATION	INT8	Number of outgoing GTP data packets on the Gn interface	GTP.GTP_OutDataPktGn	Sum, esgtpbh, espabh, espactbh, tot
PayloadgtpuErrorPkt	ACCUMULATION	INT8	Payload length indicated in GTP header inconsistent with actual length	GTP.GTP_PayloadgtpuErrorPkt	Sum, esgtpbh, espabh, espactbh, tot
Tot_DataOctGn	ACCUMULATION	INT8	Total incoming and outgoing GTP octets	{InDataOctGn} + {OutDataOctGn}	Sum, esgtpbh, espabh, espactbh, pcl95, tot
Tot_DataPktGn	ACCUMULATION	INT8	Number of incoming and outgoing GTP data packets on the Gn interface	{InDataPktGn} + {OutDataPktGn}	Sum, esgtpbh, espabh, espactbh, tot

8.18.8 SGSN.Ericsson.UMTS.Logical_link_control

Statistic measurements for the Logical Link Control (LLC)

KPI	Type	Data Type	Description	Derivation	Aggregation
errLlcFramesDetectedBySgsn	ACCUMULATION	INT8	Number of erroneously received LLC frames in case of error detection in the SGSN (uplink transmission, SGSN).	LLC.errLlcFramesDetectedBySgsn	Sum, esgtpbh, espabh, espactbh, tot

nbrLlcFramesReceived	ACCUMULATION	INT8	Number of received LLC frames by the SGSN.	LLC.nbrLlcFramesReceived	Sum, esgtpbh, espabh, espactbh, tot
nbrLlcFramesSent	ACCUMULATION	INT8	Number of LLC frames sent by the SGSN.	LLC.nbrLlcFramesSent	Sum, esgtpbh, espabh, espactbh, tot

8.18.9 SGSN.Ericsson.UMTS.MBMS_PerfMonitoring

Multimedia Broadcast Multiple Service (MBMS) statistics.

KPI	Type	Data Type	Description	Derivation	Aggregation
SM_NbrActSessions	INTENSITY	INT8	Number of active MBMS sessions in this SGSN.	MBMS.SM_NbrActSessions	Average, es3gtpbh, es3pabh, es3pactbh, tot

8.18.10 SGSN.Ericsson.UMTS.Mobility_Management_for_UMTS

Statistic measurements for the mobility management for the UMTS network

KPI	Type	Data Type	Description	Derivation	Aggregation
_%_NbrHomeSub	PERCENTAGE	FLOAT	Percentage of GPRS home subscribers located in the SGSN location register.	100 * {NbrHomeSub}/{NbrActAttachedSub}	Average, avg, es3gtpbh, es3pabh, es3pactbh
_%_NbrVisitingForeign	PERCENTAGE	FLOAT	Percentage of visiting foreign GPRS subscribers located in the SGSN location register.	100 * {NbrVisitingForeign}/{NbrActAttachedSub}	Average, avg, es3gtpbh, es3pabh, es3pactbh
_%_NbrVisitingNatSub	PERCENTAGE	FLOAT	Percentage of visiting national GPRS subscribers located in the SGSN location register.	100 * {NbrVisitingNatSub}/{NbrActAttachedSub}	Average, avg, es3gtpbh, es3pabh, es3pactbh

_%_RELOC_FailInterSGSNInt	PERCENTAGE	FLOAT	Percentage of failed Inter-SGSN SRNS Relocation procedures, due to internal reasons, counted in the old SGSN.	100 * {RELOC_FailInterSGSNInt}/{RELOC_AttInterSGSN}	Average, avg, es3gtpbh, es3pabh, es3pactbh
_%_RELOC_FailIntraSGSNInt	PERCENTAGE	FLOAT	Percentage of failed Intra-SGSN SRNS Relocations, due to internal reasons.	100 * {RELOC_FailIntraSGSNInt}/{RELOC_AttIntraSGSN}	Average, avg, es3gtpbh, es3pabh, es3pactbh
_%_RELOC_SuccInterSGSNNew	PERCENTAGE	FLOAT	Percentage of successful Inter-SGSN SRNS Relocation procedures. The counter is incremented when the new SGSN receives a Forward Relocation Complete Acknowledge message from the old SGSN.	100 * {RELOC_SuccInterSGSNNew}/{RELOC_AttInterSGSNNew}	Average, avg, es3gtpbh, es3pabh, es3pactbh
_%_RELOC_SuccInterSGSN	PERCENTAGE	FLOAT	Percentage of successful Inter-SGSN SRNS Relocation procedures, counted in the old SGSN.	100 * {RELOC_SuccInterSGSN}/{RELOC_AttInterSGSN}	Average, avg, es3gtpbh, es3pabh, es3pactbh
_%_RELOC_SuccIntraSGSN	PERCENTAGE	FLOAT	Percentage of successful Intra-SGSN SRNS Relocations.	100 * {RELOC_SuccIntraSGSN}/{RELOC_AttIntraSGSN}	Average, avg, es3gtpbh, es3pabh, es3pactbh
_%_succGprsAttachUmts	PERCENTAGE	FLOAT	Percentage of successful GPRS attaches.	100 * {succGprsAttachUmts}/{attGprsAttachUmts}	Average, avg, es3gtpbh, es3pabh, es3pactbh
_%_succGprsDetachSgsnUmts	PERCENTAGE	FLOAT	Percentage of successful GPRS detaches initiated by the SGSN.	100 * {succGprsDetachSgsnUmts}/{attGprsDetachSgsnUmts}	Average, avg, es3gtpbh, es3pabh, es3pactbh
_%_succInterSgsnRaUpdateUmts	PERCENTAGE	FLOAT	Percentage of successful inter-SGSN RA updates.	100 * {succInterSgsnRaUpdateUmts}/{attInterSgsnRaUpdateUmts}	Average, avg, es3gtpbh, es3pabh, es3pactbh
_%_succIntraSgsnRaUpdateUmts	PERCENTAGE	FLOAT	Percentage of successful intra-SGSN RA update procedures.	100 * {succIntraSgsnRaUpdateUmts}/{attIntraSgsnRaUpda	Average, avg, es3gtpbh, es3pabh, es3pactbh

				teUmts}	
_%_succPacketSwitchingPagingUmts	PERCENTAGE	FLOAT	Percentage of successful PS paging procedures.	100 * {succPacketSwitchingPagingUmts}/{attPacketSwitchingPagingUmts}	Average, avg, es3gtpbh, es3pabh, es3pactbh
_%_unsuccGprsAttachUmts	PERCENTAGE	FLOAT	Percentage of unsuccessful GPRS attach requests, that is, the number of reject messages sent.	100 * {unsuccGprsAttachUmts}/{attGprsAttachUmts}	Average, avg, es3gtpbh, es3pabh, es3pactbh
_%_unsuccPacketSwitchingPagingUmts	PERCENTAGE	FLOAT	Percentage of unsuccessful packet switched paging procedures within this SGSN area, that is, packed switching paging procedures that are re-started when the previous attempt has timed out.	100 * {unsuccPacketSwitchingPagingUmts}/{attPacketSwitchingPagingUmts}	Average, avg, es3gtpbh, es3pabh, es3pactbh
attGprsAttachUmts	ACCUMULATION	INT8	The number of attempted GPRS attach procedures initiated within this SGSN area. Resending from MSs are also counted.	MM_nonindexed.attGprsAttachUmts	Sum, es3gtpbh, es3pabh, es3pactbh, tot
attGprsDetachMsUmts	ACCUMULATION	INT8	The number of attempted GPRS detach procedures.	MM_nonindexed.attGprsDetachMsUmts	Sum, es3gtpbh, es3pabh, es3pactbh, tot
attGprsDetachSgsnUmts	ACCUMULATION	INT8	The number of attempted GPRS detach procedures initiated by the SGSN.	MM_nonindexed.attGprsDetachSgsnUmts	Sum, es3gtpbh, es3pabh, es3pactbh, tot
attInterSgsnRaUpdateUmts	ACCUMULATION	INT8	The number of attempted inter-SGSN RA update procedures.	MM_nonindexed.attInterSgsnRaUpdateUmts	Sum, es3gtpbh, es3pabh, es3pactbh, tot
attIntraSgsnRaUpdateUmts	ACCUMULATION	INT8	The number of attempted intra-SGSN RA update procedures.	MM_nonindexed.attIntraSgsnRaUpdateUmts	Sum, es3gtpbh, es3pabh, es3pactbh, tot
attPacketSwitchingPagingUmts	ACCUMULATION	INT8	The number of attempted PS paging procedures.	MM_nonindexed.attPacketSwitchingPagingUmts	Sum, es3gtpbh, es3pabh, es3pactbh, tot
IRATHO_AttInterSGSNNewGsmUmts	ACCUMULATION	INT8	Number of Inter Inter-Radio Access Technology	MM_nonindexed.IRATHO_AttInterSGSNNewGsmUmts	Sum, es3gtpbh, es3pabh, es3pactbh, tot

			(IRAT) PS Handover attempts in new SGSN WCDMA, including possible retransmissions.		
IRATHO_AttInterSGSNOldGsmUmts	ACCUMULATION	INT8	Number of Inter IRAT PS Handover attempts in old SGSN GSM, including possible retransmissions.	MM_nonindexed.IRATHO_AttInterSGSNOldGsmUmts	Sum, es3gtpbh, es3pabh, es3pactbh, tot
IRATHO_AttIntraSGSNGsmUmts	ACCUMULATION	INT8	Number of Intra SGSN IRAT PS Handover from GSM to WCDMA attempts, including possible retransmissions.	MM_nonindexed.IRATHO_AttIntraSGSNGsmUmts	Sum, es3gtpbh, es3pabh, es3pactbh, tot
IRATHO_SuccInterSGSNNewGsmUmts	ACCUMULATION	INT8	Number of successful Inter IRAT PS Handovers in new SGSN when moving from GSM to WCDMA.	MM_nonindexed.IRATHO_SuccInterSGSNNewGsmUmts	Sum, es3gtpbh, es3pabh, es3pactbh, tot
IRATHO_SuccInterSGSNOldGsmUmts	ACCUMULATION	INT8	Number of successful Inter IRAT PS Handovers when moving from GSM to WCDMA.	MM_nonindexed.IRATHO_SuccInterSGSNOldGsmUmts	Sum, es3gtpbh, es3pabh, es3pactbh, tot
IRATHO_SuccIntraSGSNGsmUmts	ACCUMULATION	INT8	Number of successful Intra IRAT PS Handovers when moving from GSM to WCDMA.	MM_nonindexed.IRATHO_SuccIntraSGSNGsmUmts	Sum, es3gtpbh, es3pabh, es3pactbh, tot
MM_AttAttachAcceptNon3GPPCompU	ACCUMULATION	INT8	Number of 'Attach Accept' messages that are altered during retransmission due to non Third Generation Partnership Project (3GPP) compliant UEs.	MM_nonindexed.MM_AttAttachAcceptNon3GPPCompliant_U	Sum, es3gtpbh, es3pabh, es3pactbh, tot
MM_AttAuthCiphReqNon3GPPCompU	ACCUMULATION	INT8	Number of 'Authentication and Ciphering Request' messages that are altered during retransmission due to non 3GPP compliant UEs.	MM_nonindexed.MM_AttAuthCiphReqNon3GPPCompliant_U	Sum, es3gtpbh, es3pabh, es3pactbh, tot
MM_AttChangeOfLocalTime	ACCUMULATION	INT8	Incremented when SGSN	MM_nonindexed.MM_AttCh	Sum, es3gtpbh, es3pabh,

_U			detects a change in offset and/or daylight savings time in SGSNs handling of MS local time.	angeOfLocalTime_U	es3pactbh, tot
MM_AttDetachInactiveSub_U	ACCUMULATION	INT8	Number of attempted detach of inactive subscribers procedures within this SGSN area.	MM_nonindexed.MM_AttDetachInactiveSub_U	Sum, es3gtpbh, es3pabh, es3pactbh, tot
MM_AttRauAcceptNon3GPPCompU	ACCUMULATION	INT8	Number of 'Routing Area Update Accept' messages that are altered during retransmission due to non 3GPP compliant UEs.	MM_nonindexed.MM_AttRauAcceptNon3GPPCompliant_U	Sum, es3gtpbh, es3pabh, es3pactbh, tot
MM_AttServiceReqData_U	ACCUMULATION	INT8	Number of attempted Service request procedures of data type in the SGSN.	MM_nonindexed.MM_AttServiceReqData_U	Sum, es3gtpbh, es3pabh, es3pactbh, tot
MM_AttServiceRequest_U	ACCUMULATION	INT8	Number of attempted Service request procedures of data, signalling, or paging response type, in the SGSN.	MM_nonindexed.MM_AttServiceRequest_U	Sum, es3gtpbh, es3pabh, es3pactbh, tot
MM_NbrCamelSub_U	INTENSITY	INTEGER	The number of attached subscriber within this SGSN area with CAMEL service. Default Alarm Triggering Level: value of 40pc of the limit for attached subscribers depending on HW and the size of the scalable SGSN. Default Alarm Clearing Level: value of 35pc of the limit for attached subscribers depending on HW and the size of the scalable SGSN. Severity: Minor Default Supervision Active: False	MM_nonindexed.MM_NbrCamelSub_U	Average, avg, es3gtpbh, es3pabh, es3pactbh, max, min, tot
MM_nbrDetachedInactiveSub_U	INTENSITY	INT8	Number of detached inactive subscribers within	MM_nonindexed.MM_nbrDetachedInactiveSub_U	Average, es3gtpbh, es3pabh, es3pactbh, tot

			this SGSN area.		
MM_UnsuccAttachCC11_U	ACCUMULATION	INT8	The number of unsuccessful MM attach procedures that return cause code #11, (PLMN not allowed).	MM_nonindexed.MM_UnsuccAttachCC11_U	Sum, es3gtpbh, es3pabh, es3pactbh, tot
MM_UnsuccAttachCC17_U	ACCUMULATION	INT8	The number of unsuccessful MM attach procedures, which returns cause code #17, (Network failure).	MM_nonindexed.MM_UnsuccAttachCC17_U	Sum, es3gtpbh, es3pabh, es3pactbh, tot
MM_UnsuccAttachCSPSCoord_U	ACCUMULATION	INT8	The number of attach procedures being rejected due to coordination of CS and PS in a Multi-Operator Core Network (MOCN) constellation.	MM_nonindexed.MM_UnsuccAttachCSPSCoord_U	Sum, es3gtpbh, es3pabh, es3pactbh, tot
MM_UnsuccInterSgsnRau_U	ACCUMULATION	INT8	Number of unsuccessful MM inter- RAU procedures, that is, whenever a Routing Area Update Reject message is sent to the MS.	MM_nonindexed.MM_UnsuccInterSgsnRau_U	Sum, es3gtpbh, es3pabh, es3pactbh, tot
MM_UnsuccInterSgsnRauCC10_U	ACCUMULATION	INT8	Number of unsuccessful MM inter- RAU procedures, that is, whenever a Routing Area Update Reject message is sent to the MS with cause code #10, Implicitly detached.	MM_nonindexed.MM_UnsuccInterSgsnRauCC10_U	Sum, es3gtpbh, es3pabh, es3pactbh, tot
MM_UnsuccInterSgsnRauCC14_U	ACCUMULATION	INT8	The number of unsuccessful MM inter-RA update procedures, which returns cause code#14, (GPRS services not allowed in this PLMN).	MM_nonindexed.MM_UnsuccInterSgsnRauCC14_U	Sum, es3gtpbh, es3pabh, es3pactbh, tot
MM_UnsuccInterSgsnRauCC15_U	ACCUMULATION	INT8	Number of unsuccessful MM inter- RAU procedures, that is, whenever a	MM_nonindexed.MM_UnsuccInterSgsnRauCC15_U	Sum, es3gtpbh, es3pabh, es3pactbh, tot

			Routing Area Update Reject message is sent to the MS with cause code #15, No Suitable Cells In Location Area.		
MM_UnsuccInterSgsnRauCC17_U	ACCUMULATION	INT8	The number of unsuccessful MM inter-RA update procedures, which returns cause code#17, (Network failure).	MM_nonindexed.MM_UnsucInterSgsnRauCC17_U	Sum, es3gtpbh, es3pabh, es3pactbh, tot
MM_UnsuccInterSgsnRauCC9_U	ACCUMULATION	INT8	The number of unsuccessful MM inter-RA update procedures, which returns cause code#9, (MS identity cannot be derived by the network).	MM_nonindexed.MM_UnsucInterSgsnRauCC9_U	Sum, es3gtpbh, es3pabh, es3pactbh, tot
MM_UnsuccIntraSgsnRau_U	ACCUMULATION	INT8	Number of unsuccessful MM intra- RAU procedures, that is, whenever a Routing Area Update Reject message is sent to the MS.	MM_nonindexed.MM_UnsucIntraSgsnRau_U	Sum, es3gtpbh, es3pabh, es3pactbh, tot
MM_UnsuccIntraSgsnRauCC14_U	ACCUMULATION	INT8	The number of unsuccessful MM intra-RA update procedures, which returns cause code#14, meaning GPRS services not allowed in this PLMN.	MM_nonindexed.MM_UnsucIntraSgsnRauCC14_U	Sum, es3gtpbh, es3pabh, es3pactbh, tot
MM_UnsuccIntraSgsnRauCC15_U	ACCUMULATION	INT8	Number of unsuccessful MM intra- RAU procedures, that is, whenever a Routing Area Update Reject message is sent to the MS with cause code #15, No Suitable Cells In Location Area.	MM_nonindexed.MM_UnsucIntraSgsnRauCC15_U	Sum, es3gtpbh, es3pabh, es3pactbh, tot
MM_UnsuccIntraSgsnRauCC17_U	ACCUMULATION	INT8	The number of unsuccessful MM intra-RA Update procedures, which returns cause code#17,	MM_nonindexed.MM_UnsucIntraSgsnRauCC17_U	Sum, es3gtpbh, es3pabh, es3pactbh, tot

			meaning network failure.		
MM_UnsuccISRAUCSPSCoord_U	ACCUMULATION	INT8	The number of Inter SGSN Routing Area Update procedures being rejected due to coordination of CS and PS in an MOCN constellation.	MM_nonindexed.MM_UnsuccISRAUCSPSCoord_U	Sum, es3gtpbh, es3pabh, es3pactbh, tot
MM_UnsuccServiceReq_U	ACCUMULATION	INT8	Number of unsuccessful Service Request procedures in the SGSN. It is incremented when a Service Reject message is sent.	MM_nonindexed.MM_UnsuccServiceReq_U	Sum, es3gtpbh, es3pabh, es3pactbh, tot
MM_USucIntraSgsnRAUCSPSCoord_U	ACCUMULATION	INT8	Number of intra-SGSN RAU procedures being rejected due to the coordination of CS and PS in an MOCN constellation.	MM_nonindexed.MM_UnsuccIntraSgsnRAUCSPSCoord_U	Sum, es3gtpbh, es3pabh, es3pactbh, tot
NbrActAttachedSub	INTENSITY	INTEGER	Attached subscribers within this SGSN area. This gauge reflects the correct number of attached subscribers in the node. The gauge will then be incremented and decremented in other cases as well (that is Inter-SGSN RA Update, Implicitly Detached, and so on.)	MM_nonindexed.MM_NbrActAttachedSub_U	Average, avg, es3gtpbh, es3pabh, es3pactbh, max, min, tot
NbrHomeSub	INTENSITY	INTEGER	GPRS home subscribers located in the SGSN location register. The GPRS MM state of this subscriber is GMM_REGISTERED or GMM_DEREGISTERED. Only GPRS subscribers that are homed in the same GPRS network are considered.	MM_nonindexed.MM_NbrHomeSub_U	Average, avg, es3gtpbh, es3pabh, es3pactbh, max, min, tot
NbrVisitingForeign	INTENSITY	INTEGER	Visiting foreign GPRS	MM_nonindexed.MM_NbrVi	Average, avg, es3gtpbh,

			subscribers located in the SGSN location register. The GPRS MM state of this subscriber is GMM_REGISTERED or GMM_DEREGISTERED. Only GPRS subscribers that are homed in a GPRS network of a foreign country are considered.	sitingForeign_U	es3pabh, es3pactbh, max, min, tot
NbrVisitingNatSub	INTENSITY	INTEGER	Visiting national GPRS subscribers located in the SGSN location register. The GPRS MM state of this subscriber is GMM_REGISTERED or GMM_DEREGISTERED. Only GPRS subscribers that are homed in a partner GPRS network of the same country are considered.	MM_nonindexed.MM_NbrVisitingNatSub_U	Average, avg, es3gtpbh, es3pabh, es3pactbh, max, min, tot
RELOC_AttInterSGSNNew	ACCUMULATION	INT8	The number of attempted Inter-SGSN SRNS Relocation procedures, counted in the new SGSN.	MM_nonindexed.RELOC_AttInterSGSNNew	Sum, es3gtpbh, es3pabh, es3pactbh, tot
RELOC_AttInterSGSN	ACCUMULATION	INT8	The number of attempted Inter-SGSN SRNS Relocation procedures.	MM_nonindexed.RELOC_AttInterSGSN	Sum, es3gtpbh, es3pabh, es3pactbh, tot
RELOC_AttIntraSGSN	ACCUMULATION	INT8	The number of attempts Intra-SGSN Serving Radio Network Subsystem (SRNS) Relocations.	MM_nonindexed.RELOC_AttIntraSGSN	Sum, es3gtpbh, es3pabh, es3pactbh, tot
RELOC_FailInterSGSNInt	ACCUMULATION	INT8	The number of failed Inter-SGSN SRNS Relocation procedures, due to internal reasons, counted in the old SGSN.	MM_nonindexed.RELOC_FailInterSGSNInt	Sum, es3gtpbh, es3pabh, es3pactbh, tot
RELOC_FailIntraSGSNInt	ACCUMULATION	INT8	The number of failed Intra-SGSN SRNS Relocations, due to internal reasons.	MM_nonindexed.RELOC_FailIntraSGSNInt	Sum, es3gtpbh, es3pabh, es3pactbh, tot

RELOC_SuccInterSGSNNew	ACCUMULATION	INT8	The number of successful Inter-SGSN SRNS Relocation procedures. The counter is incremented when the new SGSN receives a Forward Relocation Complete Acknowledge message from the old SGSN.	MM_nonindexed.RELOC_SuccInterSGSNNew	Sum, es3gtpbh, es3pabh, es3pactbh, tot
RELOC_SuccInterSGSN	ACCUMULATION	INT8	The number of successful Inter-SGSN SRNS Relocation procedures, counted in the old SGSN.	MM_nonindexed.RELOC_SuccInterSGSN	Sum, es3gtpbh, es3pabh, es3pactbh, tot
RELOC_SuccIntraSGSN	ACCUMULATION	INT8	The number of successful Intra-SGSN SRNS Relocations.	MM_nonindexed.RELOC_SuccIntraSGSN	Sum, es3gtpbh, es3pabh, es3pactbh, tot
succGprsAttachUmts	ACCUMULATION	INT8	The number of successful GPRS attaches.	MM_nonindexed.succGprsAttachUmts	Sum, es3gtpbh, es3pabh, es3pactbh, tot
succGprsDetachSgsnUmts	ACCUMULATION	INT8	The number of successful GPRS detaches initiated by the SGSN.	MM_nonindexed.succGprsDetachSgsnUmts	Sum, es3gtpbh, es3pabh, es3pactbh, tot
succInterSgsnRaUpdateUmts	ACCUMULATION	INT8	The number of successful inter-SGSN RA updates.	MM_nonindexed.succInterSgsnRaUpdateUmts	Sum, es3gtpbh, es3pabh, es3pactbh, tot
succIntraSgsnRaUpdateUmts	ACCUMULATION	INT8	The number of successful intra-SGSN RA update procedures.	MM_nonindexed.succIntraSgsnRaUpdateUmts	Sum, es3gtpbh, es3pabh, es3pactbh, tot
succPacketSwitchingPagingUmts	ACCUMULATION	INT8	The number of successful PS paging procedures.	MM_nonindexed.succPacketSwitchingPagingUmts	Sum, es3gtpbh, es3pabh, es3pactbh, tot
Total_UnsuccAttach	ACCUMULATION	INT8	Total of unsuccessful MM procedures for all returns cause codes.	{UnsuccAttachCC7} + {UnsuccAttachCC8} + {UnsuccAttachCC13} + {UnsuccAttachCC14} + {UnsuccAttachCC15} + {UnsuccAttachCC22} + {MM_UnsuccAttachCC11_U} + {MM_UnsuccAttachCC17_U}	Sum, es3gtpbh, es3pabh, es3pactbh, tot

UnsuccAttachCC13	ACCUMULATION	INT8	Unsuccessful MM procedures which returns cause code #13, (Roaming not allowed in this location area).	MM_nonindexed.MM_UnsuccAttachCC13_U	Sum, es3gtpbh, es3pabh, es3pactbh, tot
UnsuccAttachCC14	ACCUMULATION	INT8	Unsuccessful MM procedures which returns cause code #14, (GPRS services not allowed in this PLMN).	MM_nonindexed.MM_UnsuccAttachCC14_U	Sum, es3gtpbh, es3pabh, es3pactbh, tot
UnsuccAttachCC15	ACCUMULATION	INT8	Unsuccessful MM procedures, which returns cause code #15, (No suitable cells in location area).	MM_nonindexed.MM_UnsuccAttachCC15_U	Sum, es3gtpbh, es3pabh, es3pactbh, tot
UnsuccAttachCC22	ACCUMULATION	INT8	Unsuccessful MM procedures which returns cause code #22, (Congestion).	MM_nonindexed.MM_UnsuccAttachCC22_U	Sum, es3gtpbh, es3pabh, es3pactbh, tot
UnsuccAttachCC7	ACCUMULATION	INT8	Unsuccessful MM procedures which returns cause code #7, (GPRS Services not allowed).	MM_nonindexed.MM_UnsuccAttachCC7_U	Sum, es3gtpbh, es3pabh, es3pactbh, tot
UnsuccAttachCC8	ACCUMULATION	INT8	Unsuccessful MM procedures which returns cause code #8, (GPRS and non-GPRS services not allowed).	MM_nonindexed.MM_UnsuccAttachCC8_U	Sum, es3gtpbh, es3pabh, es3pactbh, tot
unsuccGprsAttachUmts	ACCUMULATION	INT8	The number of unsuccessful GPRS attach requests, that is, the number of reject messages sent.	MM_nonindexed.unsuccGprsAttachUmts	Sum, es3gtpbh, es3pabh, es3pactbh, tot
unsuccPacketSwitchingPagingUmts	ACCUMULATION	INT8	The number of unsuccessful packet switched paging procedures within this SGSN area, that is, packed switching paging	MM_nonindexed.unsuccPacketSwitchingPagingUmts	Sum, es3gtpbh, es3pabh, es3pactbh, tot

			procedures that are re-started when the previous attempt has timed out.		
USucIntSgsnGsmUmtsRauCSPSCoord	ACCUMULATION	INT8	Number of intra-SGSN inter-system change procedures being rejected due to the coordination of CS and PS in an MOCN constellation.	MM_nonindexed.ISYSC_UnsuccIntraSgsnGsmUmtsRauCSPSCoord	Sum, es3gtpbh, es3pabh, es3pactbh, tot

8.18.11 SGSN.Ericsson.UMTS.Mobility_Management

Statistic measurements for the mobility management

KPI	Type	Data Type	Description	Derivation	Aggregation
_%_NbrHomeSub	PERCENTAGE	FLOAT	Percentage of GPRS home subscribers located in the SGSN location register.	100 * {NbrHomeSub}/{NbrActAttachedSub}	Average, avg, esgtpbh, espabh, espactbh
_%_NbrVisitingForeign	PERCENTAGE	FLOAT	Percentage of visiting foreign GPRS subscribers located in the SGSN location register.	100 * {NbrVisitingForeign}/{NbrActAttachedSub}	Average, avg, esgtpbh, espabh, espactbh
_%_NbrVisitingNatSub	PERCENTAGE	FLOAT	Percentage of visiting national GPRS subscribers located in the SGSN location register.	100 * {NbrVisitingNatSub}/{NbrActAttachedSub}	Average, avg, esgtpbh, espabh, espactbh
_%_succCombiAttach	PERCENTAGE	FLOAT	Successfully completed Combined GPRS/IMSI Attach procedures initiated by this SGSN area. The counter is not incremented when re-sending Attach Accepts to the MS. If the IMSI (CS) Attach failed but the GPRS Attach was successful, no counters are incremented.	100 * {SuccCombiAttach}/{AttCombiAttach}	Average, avg, esgtpbh, espabh, espactbh

_%_succGprsAttach	PERCENTAGE	FLOAT	Successfully performed GPRS Attach procedures within this SGSN area. The counter is not incremented when re-sending Attach Accept to the MS. If an attach request indicating Combined GPRS/IMSI Attach was received and the IMSI (CS) Attach failed but the GPRS Attach was successful, the counter is not incremented.	100 * {SuccGprsAttach}/{AttGprsAttach}	Average, avg, esgtpbh, espabh, espactbh
_%_succGprsDetachSgsn	PERCENTAGE	FLOAT	Successfully completed GPRS Detach procedures SGSN-initiated within the SGSN area. The procedure is not considered successful if Detach Accept is not received, even though the MS is detached in the network.	100 * {SuccGprsDetachSgsn}/{AttGprsDetachSgsn}	Average, avg, esgtpbh, espabh, espactbh
_%_succImsiAttach	PERCENTAGE	FLOAT	Successfully performed GPRS Attach procedures while IMSI is already attached. The attempts initiated within this SGSN area are counted. The counter is not incremented when re-sending Attach Accept to the MS.	100 * {SuccImsiAttach}/{AttImsiAttach}	Average, avg, esgtpbh, espabh, espactbh
_%_succInterSgsnRaUpdate	PERCENTAGE	FLOAT	Successfully completed Inter-SGSN Routing Area Update procedures in this SGSN.	100 * {succInterSgsnRaUpdate}/{attInterSgsnRaUpdate}	Average, avg, esgtpbh, espabh, espactbh
_%_succIntraSgsnRaUpdate	PERCENTAGE	FLOAT	Successfully performed Intra-SGSN Routing Area Update procedures initiated in this SGSN. The counter is not stepped when re-sending RA Update to the MS. All types	100 * {SuccIntraSgsnRaUpdate} /{AttIntraSgsnRaUpdate}	Average, avg, esgtpbh, espabh, espactbh

			of Intra-SGSN RA Update Requests are counted: Normal RA Update, Periodic RA Update and RA Update acting as resume of a suspended MS.		
AttCombiAttach	ACCUMULATION	INT8	Attempts of Combined GPRS/IMSI Attach procedures initiated by this SGSN area. Re-sending from MSs are also counted.	MM_nonindexed.attCombiAttach	Sum, esgtpbh, espabh, espactbh, tot
AttCombiDetachMs	ACCUMULATION	INT8	Attempted MS-initiated Combined GPRS/IMSI Detach procedures within this SGSN area. Re-sending from MSs are also counted.	MM_nonindexed.attCombiDetachMs	Sum, esgtpbh, espabh, espactbh, tot
AttDetachInactiveSub	ACCUMULATION	INT8	Attempted detach of inactive subscribers procedures within this SGSN area.	MM_nonindexed.MM_AttDetachInactiveSub_G	Sum, esgtpbh, espabh, espactbh, tot
AttGprsAttach	ACCUMULATION	INT8	Attempted GPRS Attach procedures initiated within this SGSN area. Both sending and re-sending from MSs are counted.	MM_nonindexed.attGprsAttach	Sum, esgtpbh, espabh, espactbh, tot
attGprsAttachVisitor	ACCUMULATION	INT8	Number of attempted GPRS attach procedures, within this SGSN area, initiated by visiting GPRS subscribers.	MM_nonindexed.attGprsAttachVisitor	Sum, esgtpbh, espabh, espactbh, tot
AttGprsDetachMs	ACCUMULATION	INT8	Attempted GPRS Detach procedures within this SGSN area. Both sending and re-sending from MSs are counted.	MM_nonindexed.attGprsDetachMs	Sum, esgtpbh, espabh, espactbh, tot
AttGprsDetachSgsn	ACCUMULATION	INT8	Attempted GPRS Detach procedures initiated by SGSN. The counter is	MM_nonindexed.attGprsDetachSgsn	Sum, esgtpbh, espabh, espactbh, tot

			incremented when sending Detach Request to an MS. The counter is not incremented when re-sending Detach Request to the MS.		
AttImsiAttach	ACCUMULATION	INT8	Attempted GPRS Attach procedures initiated while International Mobile Subscriber Identity (IMSI) is already attached. The attempts initiated within this SGSN area are counted. Re-sending from MSs are also counted.	MM_nonindexed.attImsiAttach	Sum, esgtpbh, espabh, espactbh, tot
attImsiDetachMS	ACCUMULATION	INT8	Attempted MS-initiated IMSI Detach procedures within this SGSN area. Re-sending from MSs are also counted.	MM_nonindexed.attImsiDetachMS	Sum, esgtpbh, espabh, espactbh, tot
attInterSgsnRaUpdate	ACCUMULATION	INT8	Attempted Inter-SGSN Routing Area procedures initiated in this SGSN, where the old RA is served by another SGSN. Both sending and re-sending from MSs are counted.	MM_nonindexed.attInterSgsnRaUpdate	Sum, esgtpbh, espabh, espactbh, tot
attInterSgsnRaUpdateVisitor	ACCUMULATION	INT8	Number of attempted inter-SGSN Routing Area Update (RAU) procedures initiated by visiting GPRS subscribers within this SGSN, where the old RA is served by another SGSN.	MM_nonindexed.attInterSgsnRaUpdateVisitor	Sum, esgtpbh, espabh, espactbh, tot
AttIntraSgsnRaUpdate	ACCUMULATION	INT8	Attempted Intra-SGSN Routing Area Update procedures initiated within this SGSN area. Both sending and re-sending from MSs are counted. All types of Intra- SGSN RA	MM_nonindexed.attIntraSgsnRaUpdate	Sum, esgtpbh, espabh, espactbh, tot

			Update requests are counted: Normal RA Update, Periodic RA Update and RA Update acting as resume of a suspended MS.		
AttPacketSwitchingPaging	ACCUMULATION	INT8	Attempted packet switched-paging procedures, for GPRS services, within the SGSN area. The initial paging procedure, as well as the repeated paging procedures are counted. A paging procedure means that the counter is incremented once when sending the first set of paging (that is, 3 paging messages with new Packet Temporary Mobile Subscriber Identity [P-TMSI] and possibly 2 paging messages with old P-TMSI). A new paging set (triggered by a new DL PDU) is regarded as a new procedure. Paging with IMSI (due to abnormal situation) is also regarded as a new procedure.	MM_nonindexed.attPacketSwitchingPaging	Sum, esgtpbh, espabh, espactbh, tot
discardedAttachMsError	ACCUMULATION	INT8	Incremented when there is a rejected attach because the MS has wrong Temporary Logical Link Identity (TLLI).	MM_nonindexed.discardedAttachMsError	Sum, esgtpbh, espabh, espactbh, tot
discardedCombiAttach	ACCUMULATION	INT8	The number of discarded combined GPRS/IMSI attach requests on the DP level due to overload protection or incorrect information elements.	MM_nonindexed.discardedCombiAttach	Sum, esgtpbh, espabh, espactbh, tot

discardedCombiRaUpdate	ACCUMULATION	INT8	The number of discarded combined routing area update requests on DP level, due to overload protection or incorrect information elements.	MM_nonindexed.discardedCombiRaUpdate	Sum, esgtpbh, espabh, espactbh, tot
discardedDetach	ACCUMULATION	INT8	The number of discarded detach requests on DP level, due to overload protection or incorrect information elements.	MM_nonindexed.discardedDetach	Sum, esgtpbh, espabh, espactbh, tot
discardedGprsAttach	ACCUMULATION	INT8	The number of discarded GPRS attach requests on the Device Processor (DP) level due to overload protection or incorrect information elements.	MM_nonindexed.discardedGprsAttach	Sum, esgtpbh, espabh, espactbh, tot
discardedRaUpdate	ACCUMULATION	INT8	The number of discarded routing area update requests on DP level, due to overload protection or incorrect information elements.	MM_nonindexed.discardedRaUpdate	Sum, esgtpbh, espabh, espactbh, tot
gprsMmSgsnPagingProcedures	ACCUMULATION	INT8	Total number of paging procedures per SGSN. A paging procedure means that the counter is incremented once when sending the first set of paging (that is 3 paging messages with new P-TMSI and possibly 2 paging messages with old P-TMSI). A new paging set (triggered by a new DL PDU) is regarded as a new procedure. Paging with IMSI (due to abnormal situation) is also regarded as a new procedure. This measurement counts both Circuit-Switched (CS) and	MM_nonindexed.gprsMmSgsnPagingProcedures	Sum, esgtpbh, espabh, espactbh, tot

			PS paging procedures. Note! There is no repetition for CS paging, hence each CS paging message is counted as one procedure.		
gprsMmSgsnRejectedByAdmissionControl	ACCUMULATION	INT8	Attach or Inter-SGSN RA-update requests that were rejected by admission control. The request is rejected and fault code 22 is sent to the MS, indicating congestion. The admission control reject can be caused by maximum Simultaneously Attached Users (SAU) limit reached.	MM_nonindexed.gprsMmSgsnRejectedByAdmissionControl	Sum, esgtpbh, espabh, espactbh, tot
gprsMmSgsnSuccessfulPagingProcedures	ACCUMULATION	INT8	Successful paging procedures in SGSN.	MM_nonindexed.gprsMmSgsnSuccessfulPagingProcedures	Sum, esgtpbh, espabh, espactbh, tot
gprsMmSgsnUnsuccessfulAttachRequests	ACCUMULATION	INT8	Unsuccessful attach requests per SGSN, that is, whenever an attach reject message is sent.	MM_nonindexed.gprsMmSgsnUnsuccessfulAttachRequests	Sum, esgtpbh, espabh, espactbh, tot
gprsMmSgsnUnsuccessfulPagingProcedures	ACCUMULATION	INT8	(Obsolete in R7.0 This has been replaced by unsuccPacketSwitchingPaging) Unsuccessful PS paging procedures per SGSN.	MM_nonindexed.gprsMmSgsnUnsuccessfulPagingProcedures	Sum, esgtpbh, espabh, espactbh, tot
HHO_AttInterSGSNNew	ACCUMULATION	INT8	Number of Inter PS Handover attempts in new SGSN, including possible retransmissions.	MM_nonindexed.HHO_AttInterSGSNNew	Sum, esgtpbh, espabh, espactbh, tot
HHO_AttInterSGSNOld	ACCUMULATION	INT8	Number of Inter PS Handovers attempts in old SGSN, including possible retransmissions.	MM_nonindexed.HHO_AttInterSGSNOld	Sum, esgtpbh, espabh, espactbh, tot
HHO_AttIntraSGSN	ACCUMULATION	INT8	Number of Intra PS	MM_nonindexed.HHO_AttI	Sum, esgtpbh, espabh,

			Handover attempts, including possible retransmissions.	ntraSGSN	espactbh, tot
HHO_AttOptIntraSGSN	ACCUMULATION	INT8	Number of Optimized PS Handover attempts, including possible retransmissions.	MM_nonindexed.HHO_AttOptIntraSGSN	Sum, esgtpbh, espabh, espactbh, tot
HHO_SuccInterSGSNNew	ACCUMULATION	INT8	Number of successful Inter PS Handover procedures in new SGSN.	MM_nonindexed.HHO_SuccInterSGSNNew	Sum, esgtpbh, espabh, espactbh, tot
HHO_SuccInterSGSNOld	ACCUMULATION	INT8	Number of successful PS Handover procedures in old SGSN.	MM_nonindexed.HHO_SuccInterSGSNOld	Sum, esgtpbh, espabh, espactbh, tot
HHO_SuccIntraSGSN	ACCUMULATION	INT8	Number of successful Intra PS Handover procedures.	MM_nonindexed.HHO_SuccIntraSGSN	Sum, esgtpbh, espabh, espactbh, tot
HHO_SuccOptIntraSGSN	ACCUMULATION	INT8	Number of successful Optimized PS Handover procedures.	MM_nonindexed.HHO_SuccOptIntraSGSN	Sum, esgtpbh, espabh, espactbh, tot
IRATHO_AttInterSGSNNewUmtsGsm	ACCUMULATION	INT8	Number of Inter IRAT PS Handover attempts in new SGSN when moving from WCDMA to GSM, including possible retransmissions.	MM_nonindexed.IRATHO_AttInterSGSNNewUmtsGsm	Sum, esgtpbh, espabh, espactbh, tot
IRATHO_AttInterSGSNOldUmtsGsm	ACCUMULATION	INT8	Number of Inter IRAT PS Handover attempts in old SGSN when moving from WCDMA to GSM, including possible retransmissions.	MM_nonindexed.IRATHO_AttInterSGSNOldUmtsGsm	Sum, esgtpbh, espabh, espactbh, tot
IRATHO_AttIntraSGSNUmtsGsm	ACCUMULATION	INT8	Number of Intra IRAT PS Handover attempts when moving from WCDMA to GSM, including possible retransmissions.	MM_nonindexed.IRATHO_AttIntraSGSNUmtsGsm	Sum, esgtpbh, espabh, espactbh, tot
IRATHO_SuccInterSGSNNewUmtsGsm	ACCUMULATION	INT8	Number of successful Inter IRAT PS Handovers when moving from WCDMA to GSM.	MM_nonindexed.IRATHO_SuccInterSGSNNewUmtsGsm	Sum, esgtpbh, espabh, espactbh, tot

IRATHO_SuccInterSGSNOldUmtsGsm	ACCUMULATION	INT8	Number of successful Inter IRAT PS Handovers in old SGSN when moving from WCDMA to GSM.	MM_nonindexed.IRATHO_SuccInterSGSNOldUmtsGsm	Sum, esgtpbh, espabh, espactbh, tot
IRATHO_SuccIntraSGSNUmtsGsm	ACCUMULATION	INT8	Number of successful Intra IRAT PS Handovers when moving from WCDMA to GSM.	MM_nonindexed.IRATHO_SuccIntraSGSNUmtsGsm	Sum, esgtpbh, espabh, espactbh, tot
MM_AttAttachAcceptNon3GPPCompG	ACCUMULATION	INT8	Number of 'Attach Accept' messages that are altered during retransmission due to non 3GPP compliant User Equipment (UEs).	MM_nonindexed.MM_AttAttachAcceptNon3GPPCompliant_G	Sum, esgtpbh, espabh, espactbh, tot
MM_AttAuthCiphReqNon3GPPCompG	ACCUMULATION	INT8	Number of 'Authentication and Ciphering Request' messages that are altered during retransmission due to non 3GPP compliant UEs.	MM_nonindexed.MM_AttAuthCiphReqNon3GPPCompliant_G	Sum, esgtpbh, espabh, espactbh, tot
MM_AttChangeOfLocalTime_G	ACCUMULATION	INT8	Incremented when SGSN detects a change in offset and/or daylight savings time in SGSNs handling of MS local time.	MM_nonindexed.MM_AttChangeOfLocalTime_G	Sum, esgtpbh, espabh, espactbh, tot
MM_AttRauAcceptNon3GPPCompG	ACCUMULATION	INT8	Number of 'Routing Area Update Accept' messages that are altered during retransmission due to non 3GPP compliant UEs.	MM_nonindexed.MM_AttRauAcceptNon3GPPCompliant_G	Sum, esgtpbh, espabh, espactbh, tot
MM_NbrCamelSub_G	INTENSITY	INTEGER	The number of attached subscriber within this SGSN area with CAMEL service. Default Alarm Triggering Level: value of 40pc of the limit for attached subscribers depending on HW and the size of the scalable SGSN. Default Alarm Clearing Level: value of 35pc of the	MM_nonindexed.MM_NbrCamelSub_G	Average, avg, esgtpbh, espabh, espactbh, max, min, tot

			limit for attached subscribers depending on HW and the size of the scalable SGSN. Severity: Minor Default Supervision Active: False		
MM_NbrSubPmmConnected	INTENSITY	INTEGER	This measurement provides the number of subscribers in PMM-CONNECTED state. Default Alarm Triggering Level: 180000 Default Alarm Clearing Level: 175000 Severity: Warning Default Supervision Active: False	MM_nonindexed.MM_NbrSubPmmConnected	Average, avg, esgtpbh, espabh, espactbh, max, min, tot
MM_UnsuccAttachCC11_G	ACCUMULATION	INT8	The number of unsuccessful MM attach procedures that return cause code #11, (PLMN not allowed).	MM_nonindexed.MM_UnsuccAttachCC11_G	Sum, esgtpbh, espabh, espactbh, tot
MM_UnsuccAttachCC17_G	ACCUMULATION	INT8	The number of unsuccessful MM attach procedures, which returns cause code #17, (Network failure).	MM_nonindexed.MM_UnsuccAttachCC17_G	Sum, esgtpbh, espabh, espactbh, tot
MM_UnsuccInterSgsnRau_G	ACCUMULATION	INT8	Number of unsuccessful MM inter- RAU procedures, that is, whenever a Routing Area Update Reject message is sent to the MS.	MM_nonindexed.MM_UnsuccInterSgsnRau_G	Sum, esgtpbh, espabh, espactbh, tot
MM_UnsuccInterSgsnRauCC10_G	ACCUMULATION	INT8	Number of unsuccessful MM inter- RAU procedures, that is, whenever a Routing Area Update Reject message is sent to the MS with cause code #10, Implicitly detached.	MM_nonindexed.MM_UnsuccInterSgsnRauCC10_G	Sum, esgtpbh, espabh, espactbh, tot
MM_UnsuccInterSgsnRauCC14_G	ACCUMULATION	INT8	The number of unsuccessful MM inter-RA	MM_nonindexed.MM_UnsuccInterSgsnRauCC14_G	Sum, esgtpbh, espabh, espactbh, tot

			update procedures, which returns cause code#14, (GPRS services not allowed in this PLMN).		
MM_UnsuccInterSgsnRauCC15_G	ACCUMULATION	INT8	Number of unsuccessful MM inter- RAU procedures, that is, whenever a Routing Area Update Reject message is sent to the MS with cause code #15, No Suitable Cells In Location Area.	MM_nonindexed.MM_UnsuccInterSgsnRauCC15_G	Sum, esgtpbh, espabh, espactbh, tot
MM_UnsuccInterSgsnRauCC17_G	ACCUMULATION	INT8	The number of unsuccessful MM inter-RA update procedures, which returns cause code#17, (Network failure).	MM_nonindexed.MM_UnsuccInterSgsnRauCC17_G	Sum, esgtpbh, espabh, espactbh, tot
MM_UnsuccInterSgsnRauCC9_G	ACCUMULATION	INT8	The number of unsuccessful MM inter-RA update procedures, which returns cause code#9, (MS identity cannot be derived by the network).	MM_nonindexed.MM_UnsuccInterSgsnRauCC9_G	Sum, esgtpbh, espabh, espactbh, tot
MM_UnsuccIntraSgsnRau_G	ACCUMULATION	INT8	Number of unsuccessful MM intra- RAU procedures, that is, whenever a Routing Area Update Reject message is sent to the MS.	MM_nonindexed.MM_UnsuccIntraSgsnRau_G	Sum, esgtpbh, espabh, espactbh, tot
MM_UnsuccIntraSgsnRauCC14_G	ACCUMULATION	INT8	The number of unsuccessful MM intra-RA update procedures, which returns cause code#14, meaning GPRS services not allowed in this PLMN.	MM_nonindexed.MM_UnsuccIntraSgsnRauCC14_G	Sum, esgtpbh, espabh, espactbh, tot
MM_UnsuccIntraSgsnRauCC15_G	ACCUMULATION	INT8	Number of unsuccessful MM intra- RAU procedures, that is, whenever a Routing Area Update Reject message is sent to	MM_nonindexed.MM_UnsuccIntraSgsnRauCC15_G	Sum, esgtpbh, espabh, espactbh, tot

			the MS with cause code #15, No Suitable Cells In Location Area.		
MM_UnsuccIntraSgsnRauCC17_G	ACCUMULATION	INT8	The number of unsuccessful MM intra-RA Update procedures, which returns cause code#17, meaning network failure.	MM_nonindexed.MM_UnsuccIntraSgsnRauCC17_G	Sum, esgtpbh, espabh, espactbh, tot
NbrActAttachedSub	INTENSITY	INTEGER	Attached subscribers within this SGSN area. Note! This gauge reflects the correct number of attached subscribers in the node. The gauge will then be incremented and decremented in other cases as well (that is Inter-SGSN RA Update, Implicitly Detached, and so on.)	MM_nonindexed.MM_NbrActAttachedSub_G	Average, avg, esgtpbh, espabh, espactbh, max, min, tot
nbrDetachedInactiveSub	INTENSITY	INTEGER	Detached inactive subscribers procedures within this SGSN area.	MM_nonindexed.MM_nbrDetachedInactiveSub_G	Average, avg, esgtpbh, espabh, espactbh, max, min, tot
NbrHomeSub	INTENSITY	INTEGER	GPRS home subscribers located in the SGSN location register. The GPRS MM state of this subscriber is GMM_REGISTERED or GMM_DEREGISTERED. Only GPRS subscribers that are homed in the same GPRS network are considered.	MM_nonindexed.MM_NbrHomeSub_G	Average, avg, esgtpbh, espabh, espactbh, max, min, tot
nbrOfSubReady	INTENSITY	INTEGER	Subscribers in ready state within this SGSN area.	MM_nonindexed.nbrOfSubReady	Average, avg, esgtpbh, espabh, espactbh, max, min, tot
nbrOfSubStandby	INTENSITY	INTEGER	Subscribers in standby state within this SGSN area.	MM_nonindexed.nbrOfSubStandby	Average, avg, esgtpbh, espabh, espactbh, max, min, tot

NbrVisitingForeign	INTENSITY	INTEGER	Visiting foreign GPRS subscribers located in the SGSN location register. The GPRS MM state of this subscriber is GMM_REGISTERED or GMM_DEREGISTERED. Only GPRS subscribers that are homed in a GPRS network of a foreign country are considered.	MM_nonindexed.MM_NbrVisitingForeign_G	Average, avg, esgtpbh, espabh, espactbh, max, min, tot
NbrVisitingNatSub	INTENSITY	INTEGER	Visiting national GPRS subscribers located in the SGSN location register. The GPRS MM state of this subscriber is GMM_REGISTERED or GMM_DEREGISTERED. Only GPRS subscribers that are homed in a partner GPRS network of the same country are considered.	MM_nonindexed.MM_NbrVisitingNatSub_G	Average, avg, esgtpbh, espabh, espactbh, max, min, tot
subscribersInTransitionalState	INTENSITY	INTEGER	Subscribers in transitional state, that is subscribers that are in the middle of Attach/Detach or PDP Context Activation/Deactivation procedures.	MM_nonindexed.subscribersInTransitionalState	Average, avg, esgtpbh, espabh, espactbh, max, min, tot
SuccCombiAttach	ACCUMULATION	INT8	Successfully completed Combined GPRS/IMSI Attach procedures initiated by this SGSN area. The counter is not incremented when re-sending Attach Accepts to the MS. If the IMSI (CS) Attach failed but the GPRS Attach was successful, no counters are incremented.	MM_nonindexed.succCombiAttach	Sum, esgtpbh, espabh, espactbh, tot
SuccGprsAttach	ACCUMULATION	INT8	Successfully performed GPRS Attach procedures	MM_nonindexed.succGprsAttach	Sum, esgtpbh, espabh, espactbh, tot

			within this SGSN area. The counter is not incremented when re-sending Attach Accept to the MS. If an attach request indicating Combined GPRS/IMSI Attach was received and the IMSI (CS) Attach failed but the GPRS Attach was successful, the counter is not incremented.		
succGprsAttachVisitor	ACCUMULATION	INT8	Number of successfully performed GPRS attach procedures within this SGSN area, initiated by visiting GPRS subscribers.	MM_nonindexed.succGprsAttachVisitor	Sum, esgtpbh, espabh, espactbh, tot
SuccGprsDetachSgsn	ACCUMULATION	INT8	Successfully completed GPRS Detach procedures SGSN-initiated within the SGSN area. The procedure is not considered successful if Detach Accept is not received, even though the MS is detached in the network.	MM_nonindexed.succGprsDetachSgsn	Sum, esgtpbh, espabh, espactbh, tot
SuccImsiAttach	ACCUMULATION	INT8	Successfully performed GPRS Attach procedures while IMSI is already attached. The attempts initiated within this SGSN area are counted. The counter is not incremented when re-sending Attach Accept to the MS.	MM_nonindexed.succImsiAttach	Sum, esgtpbh, espabh, espactbh, tot
succInterSgsnRaUpdate	ACCUMULATION	INT8	Successfully completed Inter-SGSN Routing Area Update procedures in this SGSN.	MM_nonindexed.succInterSgsnRaUpdate	Sum, esgtpbh, espabh, espactbh, tot
succInterSgsnRaUpdateVisitor	ACCUMULATION	INT8	Number of successfully completed inter-SGSN RAU procedures initiated by	MM_nonindexed.succInterSgsnRaUpdateVisitor	Sum, esgtpbh, espabh, espactbh, tot

			visiting GPRS subscribers within this SGSN area.		
SuccIntraSgsnRaUpdate	ACCUMULATION	INT8	Successfully performed Intra-SGSN Routing Area Update procedures initiated in this SGSN. The counter is not stepped when re-sending RA Update to the MS. All types of Intra-SGSN RA Update Requests are counted: Normal RA Update, Periodic RA Update and RA Update acting as resume of a suspended MS.	MM_nonindexed.succIntraSgsnRaUpdate	Sum, esgtpbh, espabh, espactbh, tot
Total_UnsuccAttach	ACCUMULATION	INT8	Total unsuccessful MM procedures with all returns cause codes	{UnsuccAttachCC7} + {UnsuccAttachCC8} + {UnsuccAttachCC13} + {UnsuccAttachCC14} + {UnsuccAttachCC15} + {UnsuccAttachCC22} + {MM_UnsuccAttachCC11_G} + {MM_UnsuccAttachCC17_G}	Sum, esgtpbh, espabh, espactbh, tot
UnsuccAttachCC13	ACCUMULATION	INT8	Unsuccessful MM procedures which returns cause code #13, (Roaming not allowed in this location area).	MM_nonindexed.MM_UnsuccAttachCC13_G	Sum, esgtpbh, espabh, espactbh, tot
UnsuccAttachCC14	ACCUMULATION	INT8	Unsuccessful MM procedures which returns cause code #14 (GPRS services not allowed in this PLMN).	MM_nonindexed.MM_UnsuccAttachCC14_G	Sum, esgtpbh, espabh, espactbh, tot
UnsuccAttachCC15	ACCUMULATION	INT8	Unsuccessful MM procedures, which returns cause code #15, (No suitable cells in location area).	MM_nonindexed.MM_UnsuccAttachCC15_G	Sum, esgtpbh, espabh, espactbh, tot

UnsuccAttachCC22	ACCUMULATION	INT8	Unsuccessful MM procedures which returns cause code #22, (Congestion).	MM_nonindexed.MM_UnsuccAttachCC22_G	Sum, esgtpbh, espabh, espactbh, tot
UnsuccAttachCC7	ACCUMULATION	INT8	Unsuccessful MM procedures which returns cause code #7 (GPRS Services not allowed).	MM_nonindexed.MM_UnsuccAttachCC7_G	Sum, esgtpbh, espabh, espactbh, tot
UnsuccAttachCC8	ACCUMULATION	INT8	Unsuccessful MM procedures which returns cause code #8 (GPRS and non-GPRS services not allowed).	MM_nonindexed.MM_UnsuccAttachCC8_G	Sum, esgtpbh, espabh, espactbh, tot
unsuccPacketSwitchingPaging	ACCUMULATION	INT8	Unsuccessful packet-switched paging (GPRS) procedures within this SGSN area, that is, packed-switching paging procedures that are restarted when the previous attempt has timed out. An unsuccessful paging procedure means that the counter is incremented once when a set of paging has failed (that is, 3 paging messages with new P-TMSI and possibly 2 paging messages with old P-TMSI). A new paging set (triggered by a new DL PDU) is regarded as a new procedure. Unsuccessful paging with IMSI (due to abnormal situation) is also regarded as a new procedure.	MM_nonindexed.unsuccPacketSwitchingPaging	Sum, esgtpbh, espabh, espactbh, tot

8.18.12 SGSN.Ericsson.UMTS.MS_connections_for_UMTS

Statistic measurements for the ISP for the UMTS network

KPI	Type	Data Type	Description	Derivation	Aggregation
MM_AttachedLost_U	ACCUMULATION	INT8	Number of attached MSs lost due to a crash or restart, except for node restart and large restart	ISP.MM_AttachedLost_U	Sum, es3gtpbh, es3pabh, es3pactbh, tot

8.18.13 SGSN.Ericsson.UMTS.MS_connections

Statistic measurements for the ISP

KPI	Type	Data Type	Description	Derivation	Aggregation
gsnAutomaticConnectionRestarts	ACCUMULATION	INT8	Counter is incremented when an error is detected in software which handles a single subscriber (MS) and results in an automatic connection restart.	ISP.gsnAutomaticConnectionRestarts	Sum, esgtpbh, espabh, espactbh, tot
gsnManualConnectionRestarts	ACCUMULATION	INT8	Counter is incremented when an operator manually initiates a restart of a specific subscriber (MS) via the Application Execution PXM form.	ISP.gsnManualConnectionRestarts	Sum, esgtpbh, espabh, espactbh, tot
MM_AttachedLost_G	ACCUMULATION	INT8	Number of attached MSs lost due to a crash or restart, except for node restart and large restart.	ISP.MM_AttachedLost_G	Sum, esgtpbh, espabh, espactbh, tot

8.18.14 SGSN.Ericsson.UMTS.MS_security_for_UMTS

Statistic measurements for the MS security for the UMTS network

KPI	Type	Data Type	Description	Derivation	Aggregation

_%_SEC_SuccContextRequestToPsgsn_U	PERCENTAGE	FLOAT	Percentage of success in replied SGSN context requests that were sent to a partner (previous) SGSN for subscribers registering afresh in this SGSN.	100 * {SEC_SuccContextRequestToPsgsn_U}/{SEC_AttContextRequestToPsgsn_U}	Average, avg, es3gtpbh, es3pabh, es3pactbh
AttAuthProcsSgsnSim	ACCUMULATION	INT8	Number of authentication procedures that are started within this SGSN area for a subscriber using a SIM. Valid for GSM subscribers located within WCDMA Access System.	Security.SEC_AttAuthProcsSgsnSim_U	Sum, es3gtpbh, es3pabh, es3pactbh, tot
AttAuthProcsSgsnUsim	ACCUMULATION	INT8	Number of authentication procedures that are started within this SGSN area for a subscriber using a USIM. Valid for WCDMA subscribers located within WCDMA Access Systems	Security.SEC_AttAuthProcsSgsnUsim_U	Sum, es3gtpbh, es3pabh, es3pactbh, tot
AttIdentityReqImsi	ACCUMULATION	INT8	Number of attempted Identity Request procedures initiated by this SGSN.	Security.SEC_AttIdentityReqImsi_U	Sum, es3gtpbh, es3pabh, es3pactbh, tot
RecPOAuthFailSgsn	ACCUMULATION	INT8	Number of ciphering and authentication failures within this SGSN area.	Security.SEC_RecPOAuthFailSgsn_U	Sum, es3gtpbh, es3pabh, es3pactbh, tot
SEC_AttContextRequestToPsgsn_U	ACCUMULATION	INT8	The number of SGSN context requests sent to a partner (previous) SGSN for subscribers registering afresh in this SGSN. Resending are also counted.	Security.SEC_AttContextRequestToPsgsn_U	Sum, es3gtpbh, es3pabh, es3pactbh, tot
SEC_AttCtxtReqFromPsgsn_U	ACCUMULATION	INT8	Number of SGSN context requests sent to a partner (previous) SGSN for subscribers registering afresh in this SGSN.	Security.SEC_AttContextRequestFromPsgsn_U	Sum, es3gtpbh, es3pabh, es3pactbh, tot

SEC_AttSecMode	ACCUMULATION	INT8	The number of security mode control procedures started by the SGSN.	Security.SEC_AttSecMode	Sum, es3gtpbh, es3pabh, es3pactbh, tot
SEC_SuccContextRequestToPsgsn_U	ACCUMULATION	INT8	The number of successfully replied SGSN context requests that were sent to a partner (previous) SGSN for subscribers registering afresh in this SGSN.	Security.SEC_SuccContextRequestToPsgsn_U	Sum, es3gtpbh, es3pabh, es3pactbh, tot
SEC_SuccSecMode	ACCUMULATION	INT8	The number of successful security mode procedures. The security mode command response from MS starts the uplink integrity protection (and possible ciphering). All following messages sent from the MS are integrity protected (and possibly ciphered).	Security.SEC_SuccSecMode	Sum, es3gtpbh, es3pabh, es3pactbh, tot
SuccAuthProcsSgsnSim	ACCUMULATION	INT8	Number of successful authentication procedures within this SGSN area, for a subscriber using a SIM. Valid for GSM subscribers located within WCDMA access System.	Security.SEC_SuccAuthProcsSgsnSim_U	Sum, es3gtpbh, es3pabh, es3pactbh, tot
SuccAuthProcsSgsnUsim	ACCUMULATION	INT8	Number of successful authentication procedures within this SGSN area, for a subscriber using a USIM. Valid for WCDMA subscribers located within WCDMA Access Systems.	Security.SEC_SuccAuthProcsSgsnUsim_U	Sum, es3gtpbh, es3pabh, es3pactbh, tot
SuccIdentityReqImsi	ACCUMULATION	INT8	Number of successfully completed Identity Request procedures initiated by this SGSN.	Security.SEC_SuccIdentityReqImsi_U	Sum, es3gtpbh, es3pabh, es3pactbh, tot

8.18.15 SGSN.Ericsson.UMTS.MS_Security

Statistic measurements for the MS security

KPI	Type	Data Type	Description	Derivation	Aggregation
_%_SEC_SuccContextRequestToPsgsn_G	PERCENTAGE	FLOAT	Percentage of success in replied SGSN context requests that were sent to a partner (previous) SGSN for subscribers registering afresh in this SGSN.	100 * {SEC_SuccContextRequestToPsgsn_G}/{SEC_AttContextRequestToPsgsn_G}	Average, avg, esgtpbh, espabh, espactbh
_%_succAuthInSgsn	PERCENTAGE	FLOAT	Percentage of successful authentication procedures within this SGSN area.	100 * {succAuthInSgsn}/{attAuthInSgsn}	Average, avg, esgtpbh, espabh, espactbh
_%_SuccAuthProcsSgsnSim	PERCENTAGE	FLOAT	Percentage of successful authentication procedures within this SGSN area for a subscriber using a SIM.	100 * {SuccAuthProcsSgsnSim}/{AttAuthProcsSgsnSim}	Average, avg, esgtpbh, espabh, espactbh
_%_SuccAuthProcsSgsnUsim	PERCENTAGE	FLOAT	Percentage of successful authentication procedures within this SGSN area, for a subscriber using a USIM. Valid for WCDMA subscribers located within GSM Access Systems.	100 * {SuccAuthProcsSgsnUsim}/{AttAuthProcsSgsnUsim}	Average, avg, esgtpbh, espabh, espactbh
_%_SuccIdentityReqImsi	PERCENTAGE	FLOAT	Percentage of successfully completed Identity Request procedures initiated by this SGSN.	100 * {SuccIdentityReqImsi}/{AttIdentityReqImsi}	Average, avg, esgtpbh, espabh, espactbh
attAuthInSgsn	ACCUMULATION	INT8	Number of authentication procedures that are started within this SGSN area.	Security.attAuthInSgsn	Sum, esgtpbh, espabh, espactbh, tot
AttAuthProcsSgsnSim	ACCUMULATION	INT8	Number of authentication procedures that are started within this SGSN area for a subscriber using a SIM.	Security.SEC_AttAuthProcsSgsnSim_G	Sum, esgtpbh, espabh, espactbh, tot
AttAuthProcsSgsnUsim	ACCUMULATION	INT8	Number of authentication	Security.SEC_AttAuthProcs	Sum, esgtpbh, espabh,

			procedures that are started within this SGSN area for a subscriber using a Universal Subscriber Identity Module (USIM). Valid for WCDMA subscribers located within GSM Access Systems.	SgsnUsim_G	espactbh, tot
AttIdentityReqImsi	ACCUMULATION	INT8	Number of attempted Identity Request procedures initiated by this SGSN.	Security.SEC_AttIdentityReqImsi_G	Sum, esgtpbh, espabh, espactbh, tot
attReqAuthSetsSentToHlrBySgsn	ACCUMULATION	INT8	Number of attempted MAP requests for authentication sets, sent to the HLR by the SGSN.	Security.SEC_attReqAuthSetsSentToHlrBySgsn	Sum, esgtpbh, espabh, espactbh, tot
emptyResponsesForAuthSetsFromHlr	ACCUMULATION	INT8	Number of empty responses to the MAP requests for authentication sets that were sent to the HLR.	Security.SEC_emptyResponsesForAuthSetsFromHlr	Sum, esgtpbh, espabh, espactbh, tot
RecPOAuthFailSgsn	ACCUMULATION	INT8	Number of ciphering and authentication failures within this SGSN area.	Security.SEC_RecPOAuthFailSgsn_G	Sum, esgtpbh, espabh, espactbh, tot
SEC_AttContextRequestToPsgsn_G	ACCUMULATION	INT8	The number of SGSN context requests sent to a partner (previous) SGSN for subscribers registering afresh in this SGSN. Resending are also counted.	Security.SEC_AttContextRequestToPsgsn_G	Sum, esgtpbh, espabh, espactbh, tot
SEC_AttCtxtReqFromPsgsn_G	ACCUMULATION	INT8	Number of SGSN context requests received from a partner (new) SGSN for a subscriber deregistering from this SGSN.	Security.SEC_AttContextRequestFromPsgsn_G	Sum, esgtpbh, espabh, espactbh, tot
SEC_SuccContextRequestToPsgsn_G	ACCUMULATION	INT8	The number of successfully replied SGSN context requests that were sent to	Security.SEC_SuccContextRequestToPsgsn_G	Sum, esgtpbh, espabh, espactbh, tot

			a partner (previous) SGSN for subscribers registering afresh in this SGSN.		
succAuthInSgsn	ACCUMULATION	INT8	Number of successful authentication procedures within this SGSN area.	Security.succAuthInSgsn	Sum, esgtpbh, espabh, espactbh, tot
SuccAuthProcsSgsnSim	ACCUMULATION	INT8	Number of successful authentication procedures within this SGSN area for a subscriber using a SIM.	Security.SEC_SuccAuthProcsSgsnSim_G	Sum, esgtpbh, espabh, espactbh, tot
SuccAuthProcsSgsnUsim	ACCUMULATION	INT8	Number of successful authentication procedures within this SGSN area, for a subscriber using a USIM. Valid for WCDMA subscribers located within GSM Access Systems.	Security.SEC_SuccAuthProcsSgsnUsim_G	Sum, esgtpbh, espabh, espactbh, tot
SuccIdentityReqImsi	ACCUMULATION	INT8	Number of successfully completed Identity Request procedures initiated by this SGSN.	Security.SEC_SuccIdentityReqImsi_G	Sum, esgtpbh, espabh, espactbh, tot
SuccReqAuthSetsSentToHlrBySGSN	ACCUMULATION	INT8	Number of successful MAP requests for authentication sets that were sent to the HLR by the SGSN.	Security.SEC_SuccReqAuthSetsSentToHlrBySGSN	Sum, esgtpbh, espabh, espactbh, tot

8.18.16 SGSN.Ericsson.UMTS.Performance_Monitoring

Statistic measurements for the Performance Monitoring

KPI	Type	Data Type	Description	Derivation	Aggregation
pmReadingsPerHour	INTENSITY	FLOAT	-Obsolete in R6.0- Maximum measurement type readings per hour. That's the average load caused by performance monitoring	Performance_Monitoring.pmReadingsPerHour	Average, avg, esgtpbh, espabh, espactbh, max, min, tot

			during one hour		
pmReadingsPerOccasion	INTENSITY	FLOAT	Maximum measurement type readings per reading occasion	Performance_Monitoring.pmReadingsPerOccasion	Average, avg, esgtpbh, espabh, espactbh, max, min, tot

8.18.17 SGSN.Ericsson.UMTS.QoS_for_UMTS

Statistic measurements for the Quality of Service for the UMTS network

KPI	Type	Data Type	Description	Derivation	Aggregation
CurrentGuaranteedBitRate	INTENSITY	FLOAT	Current aggregated guaranteed bit rate (UL+DL) for the node, related to streaming PDP contexts.	QoS.QoS_CurrentGuaranteedBitRate_U	Average, avg, es3gtpbh, es3pabh, es3pactbh, max, min, tot
DLBackgroundPktDiscarded	ACCUMULATION	INT8	Number of WCDMA downlink background packets discarded.	QoS.QoS_DLBackgroundPktDiscarded_U	Sum, es3gtpbh, es3pabh, es3pactbh, tot
DLBackgroundPktForwarded	ACCUMULATION	INT8	Number of WCDMA downlink background packets forwarded.	QoS.QoS_DLBackgroundPktForwarded_U	Sum, es3gtpbh, es3pabh, es3pactbh, tot
DLInteractivePktDiscarded	ACCUMULATION	INT8	Number of WCDMA downlink interactive packets discarded.	QoS.QoS_DLInteractivePktDiscarded_U	Sum, es3gtpbh, es3pabh, es3pactbh, tot
DLInteractivePktForwarded	ACCUMULATION	INT8	Number of WCDMA downlink interactive packets forwarded.	QoS.QoS_DLInteractivePktForwarded_U	Sum, es3gtpbh, es3pabh, es3pactbh, tot
DLPktDiscarded	ACCUMULATION	INT8	Number of WCDMA	{DLStreamingPktDiscarded} +	Sum,

			downlink packets discarded (streaming, interactive and background).	{DLInteractivePktDiscarded} + {DLBackgroundPktDiscarded} + {QoS_DLConversationalPktDiscarded_U}	es3gtpbh, es3pabh, es3pactbh, tot
DLPktForwarded	ACCUMULATION	INT8	Number of WCDMA downlink packets forwarded (streaming, interactive and background).	{DLStreamingPktForwarded} + {DLInteractivePktForwarded} + {DLBackgroundPktForwarded} + {QoS_DLConversationalPktForwarded_U}	Sum, es3gtpbh, es3pabh, es3pactbh, tot
DLStreamingPktDiscarded	ACCUMULATION	INT8	Number of WCDMA downlink streaming packets discarded.	QoS.QoS_DLStreamingPktDiscarded_U	Sum, es3gtpbh, es3pabh, es3pactbh, tot
DLStreamingPktForwarded	ACCUMULATION	INT8	Number of WCDMA downlink streaming packets forwarded.	QoS.QoS_DLStreamingPktForwarded_U	Sum, es3gtpbh, es3pabh, es3pactbh, tot
QoS_AttActConversationalPdpContext_U	ACCUMULATION	INT8	The number of attempted PDP context activation procedures with conversational PDP context. The counter is incremented when the MS requests the QoS conversational class.	QoS.QoS_AttActConversationalPdpContext_U	Sum, avg, es3gtpbh, es3pabh, es3pactbh, max, min, tot
QoS_AttActInteractivePdpContext_U	ACCUMULATION	INT8	The number of attempted PDP context activation procedures with interactive PDP context. The counter is incremented when the MS requests the QoS interactive class, or when the	QoS.QoS_AttActInteractivePdpContext_U	Sum, avg, es3gtpbh, es3pabh, es3pactbh, max, min, tot

			MS requests subscribed QoS which is interactive.		
QoS_AttActStreamingPdpContext_U	ACCUMULATION	INT8	The number of attempted PDP context activation procedures with streaming PDP context. The counter is incremented when the MS requests the QoS streaming class.	QoS.QoS_AttActStreamingPdpContext_U	Sum, avg, es3gtpbh, es3pabh, es3pactbh, max, min, tot
QoS_BackgroundAttRabAss_U	ACCUMULATION	INT8	Number of Radio Access Bearer (RAB) setup attempts for QoS Background. Modify RAB is not countet.	QoS.QoS_BackgroundAttRabAss_U	Sum, es3gtpbh, es3pabh, es3pactbh, tot
QoS_BackgroundReSentRabAss_U	ACCUMULATION	INT8	Number of re-sent Radio Access Bearer (RAB) assignment for QoS background. Modify RAB is not counted.	QoS.QoS_BackgroundReSentRabAss_U	Sum, es3gtpbh, es3pabh, es3pactbh, tot
QoS_BackgroundSuccRabAss_U	ACCUMULATION	INT8	Number of successful Radio Access Bearer (RAB) assignment responses for QoS Background. Modify RAB is not countet.	QoS.QoS_BackgroundSuccRabAss_U	Sum, es3gtpbh, es3pabh, es3pactbh, tot
QoS_ConversationalAttRabAss_U	ACCUMULATION	INT8	Number of Radio Access Bearer (RAB) setup attempts for QoS Conversational. Modify RAB is not countet.	QoS.QoS_ConversationalAttRabAss_U	Sum, es3gtpbh, es3pabh, es3pactbh, tot

QoS_ConversationalReStRabAss_U	ACCUMULATION	INT8	Number of re-sent Radio Access Bearer (RAB) assignment for QoS conversational. Modify RAB is not counted.	QoS.QoS_ConversationalReSentRabAss_U	Sum, es3gtpbh, es3pabh, es3pactbh, tot
QoS_ConversationalSuccRabAss_U	ACCUMULATION	INT8	Number of Radio Access Bearer (RAB) assignment responses for QoS conversational. Modify RAB is not counted.	QoS.QoS_ConversationalSuccRabAss_U	Sum, es3gtpbh, es3pabh, es3pactbh, tot
QoS_DLConversationalPktDiscarded_U	ACCUMULATION	INT8	The number of downlink conversational packets discarded through policing.	QoS.QoS_DLConversationalPktDiscarded_U	Sum, es3gtpbh, es3pabh, es3pactbh, tot
QoS_DLConversationalPktForwarded_U	ACCUMULATION	INT8	The number of downlink conversational packets forwarded on the GTP-U layer.	QoS.QoS_DLConversationalPktForwarded_U	Sum, es3gtpbh, es3pabh, es3pactbh, tot
QoS_GuaranteedBitRateAttempts_U	ACCUMULATION	INT8	The number of PDP context activation procedures that are checked for admission control. The counter is incremented when the SGSN checks the GBR (admission control) for both the conversational and streaming traffic classes.	QoS.QoS_GuaranteedBitRateAttempts_U	Sum, es3gtpbh, es3pabh, es3pactbh, tot
QoS_GuaranteedBitRateDowngrades_U	ACCUMULATION	INT8	The number of rejected conversational and downgraded	QoS.QoS_GuaranteedBitRateDowngrades_U	Sum, es3gtpbh, es3pabh, es3pactbh, tot

			streaming PDP context procedures. The counter is incremented when the SGSN due to admission control rejects a conversational or downgrade streaming request to interactive QoS class.		
QoS_InteractiveAttRabAss_U	ACCUMULATION	INT8	Number of Radio Access Bearer (RAB) setup attempts for QoS Interactive. Modify RAB is not countet.	QoS.QoS_InteractiveAttRabAss_U	Sum, es3gtpbh, es3pabh, es3pactbh, tot
QoS_InteractiveReSentRabAss_U	ACCUMULATION	INT8	Number of re-sent Radio Access Bearer (RAB) assignment for QoS interactive. Modify RAB is not counted.	QoS.QoS_InteractiveReSentRabAss_U	Sum, es3gtpbh, es3pabh, es3pactbh, tot
QoS_InteractiveSuccRabAss_U	ACCUMULATION	INT8	Number of Radio Access Bearer (RAB) assignment responses for QoS Interactive. Modify RAB is not countet.	QoS.QoS_InteractiveSuccRabAss_U	Sum, es3gtpbh, es3pabh, es3pactbh, tot
QoS_NbrActConversationalPdpContext_U	INTENSITY	INTEGER	The number of currently active PDP contexts with QoS conversational.	QoS.QoS_NbrActConversationalPdpContext_U	Average, es3gtpbh, es3pabh, es3pactbh, tot
QoS_NbrActInteractivePdpContext_U	INTENSITY	INTEGER	The number of currently active PDP contexts with QoS interactive.	QoS.QoS_NbrActInteractivePdpContext_U	Average, es3gtpbh, es3pabh, es3pactbh, tot
QoS_NbrActStreamingPdpContext_U	INTENSITY	INTEGER	The number of currently active PDP	QoS.QoS_NbrActStreamingPdpContext_U	Average, es3gtpbh,

			contexts with QoS streaming.		es3pabh, es3pactbh, tot
QoS_StreamingAttRabAss_U	ACCUMULATION	INT8	Number of Radio Access Bearer (RAB) setup attempts for QoS Streaming. Modify RAB is not countet.	QoS.QoS_StreamingAttRabAss_U	Sum, es3gtpbh, es3pabh, es3pactbh, tot
QoS_StreamingReSentRabAss_U	ACCUMULATION	INT8	Number of re-sent Radio Access Bearer (RAB) assignment for QoS streaming. Modify RAB is not counted.	QoS.QoS_StreamingReSentRabAss_U	Sum, es3gtpbh, es3pabh, es3pactbh, tot
QoS_StreamingSuccRabAss_U	ACCUMULATION	INT8	Number of Radio Access Bearer (RAB) assignment responses for QoS streaming. Modify RAB is not counted.	QoS.QoS_StreamingSuccRabAss_U	Sum, es3gtpbh, es3pabh, es3pactbh, tot

8.18.18 SGSN.Ericsson.UMTS.QoS

Statistic measurements for the Quality of service

KPI	Type	Data Type	Description	Derivation	Aggregation
CurrentGuaranteedBitRate	INTENSITY	FLOAT	Current aggregated guaranteed bit rate (UL+DL) for the node, related to streaming PDP contexts.	QoS.QoS_CurrentGuaranteedBitRate_G	Average, avg, esgtpbh, espabh, espactbh, max, min, tot
DLBackgroundPktDiscarded	ACCUMULATION	INT8	Number of downlink background packets discarded on the LLC layer.	QoS.QoS_DLBackgroundPktDiscarded_G	Sum, esgtpbh, espabh, espactbh, tot

DLBackgroundPktForwarded	ACCUMULATION	INT8	Number of downlink background packets forwarded on the LLC layer.	QoS.QoS_DLBackgroundPktForwarded_G	Sum, esgtpbh, espabh, espactbh, tot
DLInteractivePktDiscarded	ACCUMULATION	INT8	Number of downlink interactive packets discarded on the LLC layer.	QoS.QoS_DLInteractivePktDiscarded_G	Sum, esgtpbh, espabh, espactbh, tot
DLInteractivePktForwarded	ACCUMULATION	INT8	Number of downlink interactive packets forwarded on the LLC layer.	QoS.QoS_DLInteractivePktForwarded_G	Sum, esgtpbh, espabh, espactbh, tot
DLPktDiscarded	ACCUMULATION	INT8	Number of downlink packets discarded on the LLC layer (streaming, interactive ,background and conversational).	{DLStreamingPktDiscarded} + {DLInteractivePktDiscarded} + {DLBackgroundPktDiscarded} + {QoS_DLConversationalPktDiscarded_G}	Sum, esgtpbh, espabh, espactbh, tot
DLPktForwarded	ACCUMULATION	INT8	Number of uplink packets forwarded (streaming, interactive background and conversational).	{DLStreamingPktForwarded} + {DLInteractivePktForwarded} + {DLBackgroundPktForwarded} + {QoS_DLConversationalPktForwarded_G}	Sum, esgtpbh, espabh, espactbh, tot
DLStreamingPktDiscarded	ACCUMULATION	INT8	Number of downlink streaming packets discarded on the LLC layer.	QoS.QoS_DLStreamingPktDiscarded_G	Sum, esgtpbh, espabh, espactbh, tot
DLStreamingPktForwarded	ACCUMULATION	INT8	Number of downlink streaming packets forwarded on the LLC layer.	QoS.QoS_DLStreamingPktForwarded_G	Sum, esgtpbh, espabh, espactbh, tot
QoS_AttActConversationalPdpContext_G	ACCUMULATION	INT8	The number of attempted PDP context activation procedures with conversational PDP context. The	QoS.QoS_AttActConversationalPdpContext_G	Sum, esgtpbh, espabh, espactbh, tot

			counter is incremented when the MS requests the Quality of Service (QoS) conversational class.		
QoS_AttActInteractivePdpContext_G	ACCUMULATION	INT8	The number of attempted PDP context activation procedures with interactive PDP context. The counter is incremented when the MS requests the QoS interactive class, or when the MS requests the subscribed QoS class which is interactive.	QoS.QoS_AttActInteractivePdpContext_G	Sum, esgtpbh, espabh, espactbh, tot
QoS_AttActStreamingPdpContext_G	ACCUMULATION	INT8	The number of attempted PDP context activation procedures with streaming PDP context. The counter is incremented when the MS requests the QoS streaming class.	QoS.QoS_AttActStreamingPdpContext_G	Sum, esgtpbh, espabh, espactbh, tot
QoS_DLConversationalPktDiscarded_G	ACCUMULATION	INT8	The number of downlink conversational packets discarded through policing, flow control, and Gb scheduling.	QoS.QoS_DLConversationalPktDiscarded_G	Sum, esgtpbh, espabh, espactbh, tot
QoS_DLConversationalPktForwarded_G	ACCUMULATION	INT8	The number of downlink	QoS.QoS_DLConversationalPktForwarded_G	Sum, esgtpbh,

			conversational packets forwarded on the LLC layer.		espabh, espactbh, tot
QoS_GuaranteedBitRateAttempts_G	ACCUMULATION	INT8	The number of PDP context activation procedures that are checked for admission control. The counter is incremented when the SGSN checks the Guaranteed Bit Rate (GBR) (admission control) for both the conversational and streaming traffic classes.	QoS.QoS_GuaranteedBitRateAttempts_G	Sum, esgtpbh, espabh, espactbh, tot
QoS_GuaranteedBitRateDowngrades_G	ACCUMULATION	INT8	The number of rejected conversational and downgraded streaming PDP context procedures. The counter is incremented when the SGSN due to admission control rejects a conversational or downgrade streaming request to the interactive QoS class.	QoS.QoS_GuaranteedBitRateDowngrades_G	Sum, esgtpbh, espabh, espactbh, tot
QoS_NbrActConversationalPdpContext_G	INTENSITY	INTEGER	The number of currently active PDP contexts with QoS conversational.	QoS.QoS_NbrActConversationalPdpContext_G	Average, avg, esgtpbh, espabh, espactbh, max, min, tot
QoS_NbrActInteractivePdpContext_G	INTENSITY	INTEGER	The number of currently active PDP contexts with QoS	QoS.QoS_NbrActInteractivePdpContext_G	Average, avg, esgtpbh, espabh,

			interactive.		espactbh, max, min, tot
QoS_NbrActStreamingPdpContext_G	INTENSITY	INTEGER	The number of currently active PDP contexts with QoS streaming.	QoS.QoS_NbrActStreamingPdpContext_G	Average, avg, esgtpbh, espabh, espactbh, max, min, tot
QoS_ULConversationalPktForwarded	ACCUMULATION	INT8	The number of uplink conversational packets forwarded.	QoS.QoS_ULConversationalPktForwarded	Sum, esgtpbh, espabh, espactbh, tot
ULBackgroundPktForwarded	ACCUMULATION	INT8	Number of uplink background packets forwarded.	QoS.QoS_ULBackgroundPktForwarded	Sum, esgtpbh, espabh, espactbh, tot
ULInteractivePktForwarded	ACCUMULATION	INT8	Number of uplink interactive packets forwarded.	QoS.QoS_ULInteractivePktForwarded	Sum, esgtpbh, espabh, espactbh, tot
ULPktForwarded	ACCUMULATION	INT8	Number of downlink packets forwarded on the LLC layer (streaming, interactive background and conversational).	{ULStreamingPktForwarded} + {ULInteractivePktForwarded} + {ULBackgroundPktForwarded} + {QoS_ULConversationalPktForwarded}	Sum, esgtpbh, espabh, espactbh, tot
ULStreamingPktForwarded	ACCUMULATION	INT8	Number of uplink streaming packets forwarded.	QoS.QoS_ULStreamingPktForwarded	Sum, esgtpbh, espabh, espactbh, tot

8.18.19 SGSN.Ericsson.UMTS.Session_management_for_UMTS

Statistic measurements for the session management for the UMTS network

KPI	Type	Data Type	Description	Derivation	Aggregation

_%_SM_SuccActPdpContextSgsnHome_U	PERCENTAGE	FLOAT	Percentage of of successful PDP Context Activation procedures per SGSN for home subscribers.	100 * {SM_SuccActPdpContextSgsnHome_U}/{SM_AttActPdpContextSgsnHome_U}	Average, avg, es3gtpbh, es3pabh, es3pactbh
_%_SM_SuccActSecondPdpContext_U	PERCENTAGE	FLOAT	Percentage of successfully completed Secondary PDP context activations.	100 * {SM_SuccActSecondPdpContext_U}/{SM_AttActSecondPdpContext_U}	Average, avg, es3gtpbh, es3pabh, es3pactbh
_%_SM_SuccModPdpContextMs_U	PERCENTAGE	FLOAT	Percentage of successful handled MS-Initiated PDP context modifications procedures.	100 * {SM_SuccModPdpContextMs_U}/{SM_AttModPdpContextMs_U}	Average, avg, es3gtpbh, es3pabh, es3pactbh
_%_SM_SuccUpdPdpContextGgsn_U	PERCENTAGE	FLOAT	Percentage of successfully handled GGSN-Initiated PDP context update procedures for QoS renegotiation. These updates are performed successfully when a positive update PDP context response is received from the SGSN. Only QoS renegotiation procedures are counted.	100 * {SM_SuccUpdPdpContextGgsn_U}/{SM_AttUpdPdpContextGgsn_U}	Average, avg, es3gtpbh, es3pabh, es3pactbh
_%_SuccActPdpContextDyn	PERCENTAGE	FLOAT	Percentage of successful dynamic PDP context activations procedures initiated by MS	100 * {SuccActPdpContextDyn}/{AttActPdpContextDyn}	Average, avg, es3gtpbh, es3pabh, es3pactbh
_%_SuccActPdpContext	PERCENTAGE	FLOAT	Percentage of successful PDP context activations procedures	100 * {SuccActPdpContext}/{AttActPdpContext}	Average, avg, es3gtpbh, es3pabh, es3pactbh
_%_SuccDeactPdpContextMs	PERCENTAGE	FLOAT	Percentage of successful MS initiated PDP context deactivation procedures.	100 * {SuccDeactPdpContextMs}/{AttDeactPdpContextMs}	Average, avg, es3gtpbh, es3pabh, es3pactbh
_%_SuccDeactPdpContextSgsn	PERCENTAGE	FLOAT	Percentage of successful SGSN initiated PDP context deactivations	100 * {SuccDeactPdpContextSgsn}/{AttDeactPdpContextSgsn}	Average, avg, es3gtpbh, es3pabh, es3pactbh

_%_SuccModPdpContextSgsn	PERCENTAGE	FLOAT	Percentage of successfully handled SGSN-Initiated PDP context modifications procedures. These modifications are performed successfully when a positive Modify PDP Context Accept is received from the MS.	100 * {SuccModPdpContextSgsn}/{AttModPdpContextSgsn}	Average, avg, es3gtpbh, es3pabh, es3pactbh
_%_SuccUpdPdpContextSgsn	PERCENTAGE	FLOAT	Percentage of successfully handled SGSN-initiated PDP Context Update procedures. These updates are performed successfully when a positive Update PDP Context response is received from the GGSN.	100 * {SuccUpdPdpContextSgsn} /{AttUpdPdpContextSgsn}	Average, avg, es3gtpbh, es3pabh, es3pactbh
AttActPdpContextDyn	ACCUMULATION	INT8	Number of attempted PDP Context Activation requests where a dynamic PDP address is requested by the MS.	SM_nonindexed.SM_AttActPdpContextDyn_U	Sum, es3gtpbh, es3pabh, es3pactbh, tot
AttActPdpContext	ACCUMULATION	INT8	Number of attempted PDP Context Activation procedures.	SM_nonindexed.SM_AttActPdpContext_U	Sum, es3gtpbh, es3pabh, es3pactbh, tot
AttDeactPdpContextGgsn	ACCUMULATION	INT8	Number of PDP context that is disconnected by the GGSN.	SM_nonindexed.SM_AttDeactPdpContextGgsn_U	Sum, es3gtpbh, es3pabh, es3pactbh, tot
AttDeactPdpContextMs	ACCUMULATION	INT8	Number of PDP context that is disconnected by the MS.	SM_nonindexed.SM_AttDeactPdpContextMs_U	Sum, es3gtpbh, es3pabh, es3pactbh, tot
AttDeactPdpContextSgsn	ACCUMULATION	INT8	Number of PDP context that is disconnected by the SGSN.	SM_nonindexed.SM_AttDeactPdpContextSgsn_U	Sum, es3gtpbh, es3pabh, es3pactbh, tot
AttModPdpContextSgsn	ACCUMULATION	INT8	Number of attempted SGSN-Initiated PDP Context Modifications procedures	SM_nonindexed.SM_AttModPdpContextSgsn_U	Sum, es3gtpbh, es3pabh, es3pactbh, tot

AttUpdPdpContextSgsn	ACCUMULATION	INT8	Number of attempted SGSN-initiated PDP Context Update procedures. An Update PDP Context Request message is sent from the SGSN to the GGSN, as part of the GPRS Inter-SGSN Routing Update procedure or the PDP Context Modification procedure, or to redistribute contexts due to load sharing. It is used to change the QoS and the path. The message is sent by the new SGSN at the Inter-SGSN Routing Update procedure.	SM_nonindexed.SM_AttUpdPdpContextSgsn_U	Sum, es3gtpbh, es3pabh, es3pactbh, tot
NbrActivePdpPerSgsn	INTENSITY	INTEGER	Number of mobile subscribers with activated PDP context (that is, subscribers that can send/receive GPRS packet data). The gauge is incremented when a subscriber activates the first context and decremented when the subscriber deactivates the last context.	SM_nonindexed.SM_NbrActivePdpPerSgsn_U	Average, avg, es3gtpbh, es3pabh, es3pactbh, max, min, tot
NbrActPdpContext	INTENSITY	INTEGER	Number of active PDP contexts, that is, the gauge is incremented whenever a new PDP context is activated and decremented whenever a PDP context is deactivated.	SM_nonindexed.SM_NbrActPdpContext_U	Average, avg, es3gtpbh, es3pabh, es3pactbh, max, min, tot
SM_AttActPdpContextSgsnHome_U	ACCUMULATION	INT8	The number of attempted PDP Context Activation procedures per SGSN for home subscribers. Home subscribers are defined by the roaming status	SM_nonindexed.SM_AttActPdpContextSgsnHome_U	Sum, es3gtpbh, es3pabh, es3pactbh, tot

			parameter during the IMSI-series configuration.		
SM_AttActSecondPdpContext_U	ACCUMULATION	INT8	The number of attempted Secondary PDP context activation procedures.	SM_nonindexed.SM_AttActSecondPdpContext_U	Sum, es3gtpbh, es3pabh, es3pactbh, tot
SM_AttDeactPdpContextSgsnCC38_U	ACCUMULATION	INT8	The number of PDP context that is disconnected by the SGSN where cause code 38 (Network failure) is sent to the MS.	SM_nonindexed.SM_AttDeactPdpContextSgsnCC38_U	Sum, es3gtpbh, es3pabh, es3pactbh, tot
SM_AttDeactPdpContextSgsnCC39_U	ACCUMULATION	INT8	The number of PDP context that is disconnected by the SGSN where cause code 39 (Reactivation requested) is sent to the MS.	SM_nonindexed.SM_AttDeactPdpContextSgsnCC39_U	Sum, es3gtpbh, es3pabh, es3pactbh, tot
SM_AttModPdpContextMs_U	ACCUMULATION	INT8	The number of attempted MS-initiated PDP Context Modifications procedures.	SM_nonindexed.SM_AttModPdpContextMs_U	Sum, es3gtpbh, es3pabh, es3pactbh, tot
SM_AttRabModPS	ACCUMULATION	INT8	The number of attempted RAB Modify Request procedures. It is incremented when RAB Modify Request is received.	SM_nonindexed.SM_AttRabModPS	Sum, es3gtpbh, es3pabh, es3pactbh, tot
SM_AttUpdPdpContextGgsn_U	ACCUMULATION	INT8	The number of attempted GGSN-initiated PDP context update procedures. An Update PDP Context Request message can be sent from a GGSN to an SGSN to renegotiate the QoS of a PDP context. Only attempts at QoS negotiation are counted.	SM_nonindexed.SM_AttUpdPdpContextGgsn_U	Sum, es3gtpbh, es3pabh, es3pactbh, tot
SM_DeactivatedPDPCtxtOldSgsn_U	ACCUMULATION	INT8	Number of PDP contexts deleted in old SGSN instead of transferred to new SGSN.	SM_nonindexed.SM_DeactivatedPDPContextOldSgsn_U	Sum, es3gtpbh, es3pabh, es3pactbh, tot
SM_NDeactivatePDPCtxtOl	ACCUMULATION	INT8	Number of PDP contexts	SM_nonindexed.SM_NotDe	Sum, es3gtpbh, es3pabh,

dSgsn_U			not deactivated by the old SGSN after the contexts were transferred to the new SGSN.	activatedPDPContextOldSgsn_U	es3pactbh, tot
SM_PdpContextsLost_U	ACCUMULATION	INT8	The number of PDP contexts lost due to any crash or restart except node restart and large restart. The measurement is collected and aggregated periodically. The accuracy may therefore be affected at repeated restarts.	SM_nonindexed.SM_PdpContextsLost_U	Sum, es3gtpbh, es3pabh, es3pactbh, tot
SM_SuccActPdpContextSgsnHome_U	ACCUMULATION	INT8	The number of successful PDP Context Activation procedures per SGSN for home subscribers. Home subscribers are defined by the roaming status parameter during the IMSI-series configuration	SM_nonindexed.SM_SuccActPdpContextSgsnHome_U	Sum, es3gtpbh, es3pabh, es3pactbh, tot
SM_SuccActSecondPdpContext_U	ACCUMULATION	INT8	The number of successfully completed Secondary PDP context activations.	SM_nonindexed.SM_SuccActSecondPdpContext_U	Sum, es3gtpbh, es3pabh, es3pactbh, tot
SM_SuccModPdpContextMs_U	ACCUMULATION	INT8	The number of successfully handled MS-Initiated PDP context modifications procedures. These modifications are performed successfully when a Modify PDP Context is sent to the MS.	SM_nonindexed.SM_SuccModPdpContextMs_U	Sum, es3gtpbh, es3pabh, es3pactbh, tot
SM_SuccUpdPdpContextGgsn_U	ACCUMULATION	INT8	The number of successfully handled GGSN-Initiated PDP context update procedures for QoS renegotiation. These updates are performed successfully when a positive update PDP context response is	SM_nonindexed.SM_SuccUpdPdpContextGgsn_U	Sum, es3gtpbh, es3pabh, es3pactbh, tot

			received from the SGSN. Only QoS renegotiation procedures are counted.		
SM_UnsuccActPdpContext_U	ACCUMULATION	INT8	Number of unsuccessful primary PDP Context Activation procedures per SGSN.	SM_nonindexed.SM_UnsuccActPdpContext_U	Sum, es3gtpbh, es3pabh, es3pactbh, tot
SM_UnsuccActPdpContextCamel_U	ACCUMULATION	INT8	Number of unsuccessful primary PDP context activation procedures per SGSN, due to PDP context activation denial, received from the gsmSCF.	SM_nonindexed.SM_UnsuccActPdpContextCamel_U	Sum, es3gtpbh, es3pabh, es3pactbh, tot
SM_UnsuccActPdpContextCC38_U	ACCUMULATION	INT8	The number of unsuccessful PDP Context procedures per SGSN due to cause code #38 (Network failure).	SM_nonindexed.SM_UnsuccActPdpContextCC38_U	Sum, es3gtpbh, es3pabh, es3pactbh, tot
SuccActPdpContextDyn	ACCUMULATION	INT8	Number of successfully completed PDP Context Activation procedures where a dynamic PDP address is used.	SM_nonindexed.SM_SuccActPdpContextDyn_U	Sum, es3gtpbh, es3pabh, es3pactbh, tot
SuccActPdpContext	ACCUMULATION	INT8	Number of successfully completed PDP Context Activation procedures.	SM_nonindexed.SM_SuccActPdpContext_U	Sum, es3gtpbh, es3pabh, es3pactbh, tot
SuccDeactPdpContextGgsn	ACCUMULATION	INT8	Number of successfully handled PDP context deactivations initiated by the GGSN. For these context deactivations, the MS has accepted the PDP context deactivation.	SM_nonindexed.SM_SuccDeactPdpContextGgsn_U	Sum, es3gtpbh, es3pabh, es3pactbh, tot
SuccDeactPdpContextMs	ACCUMULATION	INT8	Number of successfully completed PDP context deactivations. For these context deactivations, the GGSN is updated successfully (that is,	SM_nonindexed.SM_SuccDeactPdpContextMs_U	Sum, es3gtpbh, es3pabh, es3pactbh, tot

			deletion of the PDP context).		
SuccDeactPdpContextSgsn	ACCUMULATION	INT8	Number of successfully handled PDP context deactivations initiated by the SGSN.	SM_nonindexed.SM_SuccDeactPdpContextSgsn_U	Sum, es3gtpbh, es3pabh, es3pactbh, tot
SuccModPdpContextSgsn	ACCUMULATION	INT8	Number of successfully handled SGSN-Initiated PDP context modifications procedures. These modifications are performed successfully when a positive Modify PDP Context Accept is received from the MS.	SM_nonindexed.SM_SuccModPdpContextSgsn_U	Sum, es3gtpbh, es3pabh, es3pactbh, tot
SuccUpdPdpContextSgsn	ACCUMULATION	INT8	Number of successfully handled SGSN-initiated PDP Context Update procedures. These updates are performed successfully when a positive Update PDP Context response is received from the GGSN.	SM_nonindexed.SM_SuccUpdPdpContextSgsn_U	Sum, es3gtpbh, es3pabh, es3pactbh, tot
Tot_SuccActPdpContext	ACCUMULATION	INT8	Obsolete in R6.0. Number of successful PDP context (including dynamic) activation procedures initiated by the MS	SM_nonindexed.SM_SuccActPdpContext_U	Sum, es3gtpbh, es3pabh, es3pactbh, tot
UnsuccActPdpContextCC26	ACCUMULATION	INT8	Number of unsuccessful PDP Context procedures per SGSN due to cause code #26 (Insufficient resources).	SM_nonindexed.SM_UnsuccActPdpContextCC26_U	Sum, es3gtpbh, es3pabh, es3pactbh, tot
UnsuccActPdpContextCC27_28	ACCUMULATION	INT8	Number of unsuccessful PDP Context procedures per SGSN due to cause code #27 (Unknown or missing access point name) and cause code #28 (Unknown PDP address or	SM_nonindexed.SM_UnsuccActPdpContextCC27_28_U	Sum, es3gtpbh, es3pabh, es3pactbh, tot

			PDP type).		
UnsuccActPdpContextCC29	ACCUMULATION	INT8	Number of unsuccessful PDP Context procedures per SGSN due to cause code #29 (User Authentication Failed). The counter is incremented if the request is rejected by GGSN (RADIUS).	SM_nonindexed.SM_UnsuccActPdpContextCC29_U	Sum, es3gtpbh, es3pabh, es3pactbh, tot
UnsuccActPdpContextCC32_33	ACCUMULATION	INT8	Number of unsuccessful PDP Context procedures per SGSN due to cause code #32 (Service option not supported) and cause code #33 (Requested Server Option not subscribed).	SM_nonindexed.SM_UnsuccActPdpContextCC32_33_U	Sum, es3gtpbh, es3pabh, es3pactbh, tot

8.18.20 SGSN.Ericsson.UMTS.Session_management

Statistic measurements for the session management

KPI	Type	Data Type	Description	Derivation	Aggregation
_%_SM_SuccActPdpContextSgsnHome_G	PERCENTAGE	FLOAT	Percentage of successful PDP Context Activation procedures per SGSN for home subscribers.	100 * {SM_SuccActPdpContextSgsnHome_G}/{SM_AttActPdpContextSgsnHome_G}	Average, avg, esgtpbh, espabh, espactbh
_%_SM_SuccActSecondPdpContext_G	PERCENTAGE	FLOAT	Percentage of successfully completed Secondary PDP context activations.	100 * {SM_SuccActSecondPdpContext_G}/{SM_AttActSecondPdpContext_G}	Average, avg, esgtpbh, espabh, espactbh
_%_SM_SuccRabAssignment	PERCENTAGE	FLOAT	Percentage of successful RAB assignments.	100 * {SM_SuccRabAssignment} /{SM_AttRabAssignment}	Average, avg, esgtpbh, espabh, espactbh
_%_SM_SuccUpdPdpContextGgsn_G	PERCENTAGE	FLOAT	Percentage of successfully handled GGSN-Initiated	100 * {SM_SuccUpdPdpContextG	Average, avg, esgtpbh, espabh, espactbh

			PDP context update procedures for QoS renegotiation. These updates are performed successfully when a positive update PDP context response is received from the SGSN. Only QoS renegotiation procedures are counted.	gsn_G}/{SM_AttUpdPdpContextGgsn_G}	
_%_SuccActPdpContextDyn	PERCENTAGE	FLOAT	Percentage of successful dynamic PDP context activations procedures initiated by MS	100 * {SuccActPdpContextDyn}/{AttActPdpContextDyn}	Average, avg, esgtpbh, espabh, espactbh
_%_SuccActPdpContext	PERCENTAGE	FLOAT	Percentage of successful PDP context activations procedures initiated by MS	100 * {SuccActPdpContext}/{AttActPdpContext}	Average, avg, esgtpbh, espabh, espactbh
_%_SuccDeactPdpContextGgsn	PERCENTAGE	FLOAT	Percentage of successful GGSN initiated PDP context deactivations	100 * {SuccDeactPdpContextGgsn}/{AttDeactPdpContextGgsn}	Average, avg, esgtpbh, espabh, espactbh
_%_SuccDeactPdpContextMs	PERCENTAGE	FLOAT	Percentage of successful MS initiated PDP context deactivation procedures	100 * {SuccDeactPdpContextMs}/{AttDeactPdpContextMs}	Average, avg, esgtpbh, espabh, espactbh
_%_SuccDeactPdpContextSgsn	PERCENTAGE	FLOAT	Percentage of successful SGSN initiated PDP context deactivations	100 * {SuccDeactPdpContextSgsn}/{AttDeactPdpContextSgsn}	Average, avg, esgtpbh, espabh, espactbh
_%_SuccModPdpContextMs	PERCENTAGE	FLOAT	Percentage of successfully handled MS-Initiated PDP Context Modifications procedures.	100 * {SuccModPdpContextMs}/{AttModPdpContextMs}	Average, avg, esgtpbh, espabh, espactbh
_%_SuccModPdpContextSgsn	PERCENTAGE	FLOAT	Percentage of successful handled SGSN-initiated PDP Context Modifications procedures.	100 * {SuccModPdpContextSgsn}/{SM_AttModPdpContextSgsn_G}	Average, avg, esgtpbh, espabh, espactbh
_%_SuccUpdPdpContextSgsn	PERCENTAGE	FLOAT	Percentage of successful attempted SGSN-initiated	100 * {SuccUpdPdpContextSgsn}	Average, avg, esgtpbh, espabh, espactbh

			PDP context update procedures	/{SM_AttUpdPdpContextSgsn_G}	
AttActPdpContextDyn	ACCUMULATION	INT8	Number of attempted dynamic PDP context activations procedures initiated by MS	SM_nonindexed.SM_AttActPdpContextDyn_G	Sum, esgtpbh, espabh, espactbh, tot
AttActPdpContext	ACCUMULATION	INT8	Number of attempted PDP context activation procedures initiated by MS	SM_nonindexed.SM_AttActPdpContext_G	Sum, esgtpbh, espabh, espactbh, tot
AttDeactPdpContextGgsn	ACCUMULATION	INT8	Number of PDP context that is disconnected by the GGSN.	SM_nonindexed.SM_AttDeactPdpContextGgsn_G	Sum, esgtpbh, espabh, espactbh, tot
AttDeactPdpContextMs	ACCUMULATION	INT8	Number of PDP context that is disconnected by the MS.	SM_nonindexed.SM_AttDeactPdpContextMs_G	Sum, esgtpbh, espabh, espactbh, tot
AttDeactPdpContextSgsn	ACCUMULATION	INT8	Number of PDP context that is disconnected by the SGSN.	SM_nonindexed.SM_AttDeactPdpContextSgsn_G	Sum, esgtpbh, espabh, espactbh, tot
AttModPdpContextMs	ACCUMULATION	INT8	Number of attempted MS-initiated PDP Context Modifications procedures.	SM_nonindexed.SM_AttModPdpContextMs_G	Sum, esgtpbh, espabh, espactbh, tot
discardedPayloadPacket	ACCUMULATION	INT8	The number of discarded payload PDUs on DP level, due to overload protection or incorrect information elements.	SM_nonindexed.discardedPayloadPacket	Sum, esgtpbh, espabh, espactbh, tot
discardedSessionMgmnt	ACCUMULATION	INT8	The number of discarded session management messages on DP level, due to overload protection or incorrect information elements.	SM_nonindexed.discardedSessionMgmnt	Sum, esgtpbh, espabh, espactbh, tot
gprsSmSgsnDeactivations	ACCUMULATION	INT8	Number of PDP Context Deactivations per SGSN of the PDP Contexts that has been active in SGSN.	SM_nonindexed.gprsSmSgsnDeactivations	Sum, esgtpbh, espabh, espactbh, tot
gprsSmSgsnUnsuccessfulA	ACCUMULATION	INT8	Number of unsuccessful	SM_nonindexed.gprsSmSg	Sum, esgtpbh, espabh,

ctivations			PDP Context Activation procedures per SGSN.	snUnsuccessfulActivations	espactbh, tot
gprsSmSgsnUnsuccessfulModifications	ACCUMULATION	INT8	Number of unsuccessful PDP Context Modification procedures per SGSN.	SM_nonindexed.gprsSmSgsnUnsuccessfulModifications	Sum, esgtpbh, espabh, espactbh, tot
NbrActivePdpPerSgsn	INTENSITY	INTEGER	Number of mobile subscribers with activated PDP context (that is, subscribers that can send/receive GPRS packet data). The gauge is incremented when a subscriber activates the first context and decremented when the subscriber deactivates the last context.	SM_nonindexed.SM_NbrActivePdpPerSgsn_G	Average, avg, esgtpbh, espabh, espactbh, max, min, tot
NbrActPdpContext	INTENSITY	INTEGER	Number of active PDP context	SM_nonindexed.SM_NbrActPdpContext_G	Average, avg, esgtpbh, espabh, espactbh, max, min, tot
SM_AttActPdpContextSgsnHome_G	ACCUMULATION	INT8	The number of attempted PDP Context Activation procedures per SGSN for home subscribers. Home subscribers are defined by the roaming status parameter during the IMSI-series configuration.	SM_nonindexed.SM_AttActPdpContextSgsnHome_G	Sum, esgtpbh, espabh, espactbh, tot
SM_AttActSecondPdpContext_G	ACCUMULATION	INT8	The number of attempted Secondary PDP context activation procedures.	SM_nonindexed.SM_AttActSecondPdpContext_G	Sum, esgtpbh, espabh, espactbh, tot
SM_AttDeactPdpContextSgsnCC38_G	ACCUMULATION	INT8	The number of PDP context that is disconnected by the SGSN where cause code 38 (Network failure) is sent to the MS.	SM_nonindexed.SM_AttDeactPdpContextSgsnCC38_G	Sum, esgtpbh, espabh, espactbh, tot
SM_AttDeactPdpContextSgsnCC39_G	ACCUMULATION	INT8	The number of PDP context that is disconnected by the SGSN where cause code 39	SM_nonindexed.SM_AttDeactPdpContextSgsnCC39_G	Sum, esgtpbh, espabh, espactbh, tot

			(Reactivation requested) is sent to the MS.		
SM_AttModPdpContextSgsn_G	ACCUMULATION	INT8	The number of attempted SGSN-Initiated PDP Context Modifications procedures.	SM_nonindexed.SM_AttModPdpContextSgsn_G	Sum, esgtpbh, espabh, espactbh, tot
SM_AttRabAssignment	ACCUMULATION	INT8	The number of RAB assignment attempts. It is increased when a RAB Assignment Requests message with the information element Setup RAB is sent to the RNC.	SM_nonindexed.SM_AttRabAssignment	Sum, esgtpbh, espabh, espactbh, tot
SM_AttUpdPdpContextGgsn_G	ACCUMULATION	INT8	The number of attempted GGSN-initiated PDP context update procedures. An Update PDP Context Request message can be sent from a GGSN to an SGSN to renegotiate the QoS of a PDP context. Only attempts at QoS renegotiation are counted.	SM_nonindexed.SM_AttUpdPdpContextGgsn_G	Sum, esgtpbh, espabh, espactbh, tot
SM_AttUpdPdpContextSgsn_G	ACCUMULATION	INT8	The number of attempted SGSN-initiated PDP context update procedures. An Update PDP Context Request message shall be sent from a SGSN to a GGSN as part of the GPRS Inter SGSN Routing Update procedure or the PDP Context Modification procedure. It shall be used to change the QoS and the path. The message shall be sent by the new SGSN at the Inter SGSN Routing Update procedure.	SM_nonindexed.SM_AttUpdPdpContextSgsn_G	Sum, esgtpbh, espabh, espactbh, tot
SM_DeactivatedPDPCtxtOldSgsn_G	ACCUMULATION	INT8	Number of PDP contexts deleted in old SGSN	SM_nonindexed.SM_DeactivatedPDPContextOldSgsn_	Sum, esgtpbh, espabh, espactbh, tot

			instead of transferred to new SGSN.	G	
SM_NDeactivatePDPCtxtOldSgsn_G	ACCUMULATION	INT8	Number of PDP contexts not deactivated by the old SGSN after the contexts were transferred to the new SGSN.	SM_nonindexed.SM_NotDeactivatedPDPContextOldSgsn_G	Sum, esgtpbh, espabh, espactbh, tot
SM_PdpContextsLost_G	ACCUMULATION	INT8	The number of PDP contexts lost due to any crash or restart except node restart and large restart. The measurement is collected and aggregated periodically. The accuracy may therefore be affected at repeated restarts.	SM_nonindexed.SM_PdpContextsLost_G	Sum, esgtpbh, espabh, espactbh, tot
SM_SuccActPdpContextSgsnHome_G	ACCUMULATION	INT8	The number of successful PDP Context Activation procedures per SGSN for home subscribers. Home subscribers are defined by the roaming status parameter during the IMSI-series configuration	SM_nonindexed.SM_SuccActPdpContextSgsnHome_G	Sum, esgtpbh, espabh, espactbh, tot
SM_SuccActSecondPdpContext_G	ACCUMULATION	INT8	The number of successfully completed Secondary PDP context activations.	SM_nonindexed.SM_SuccActSecondPdpContext_G	Sum, esgtpbh, espabh, espactbh, tot
SM_SuccRabAssignment	ACCUMULATION	INT8	The number of successful RAB assignments. It is increased when a RAB Assignment Response message is received indicating a successful RAB assignment.	SM_nonindexed.SM_SuccRabAssignment	Sum, esgtpbh, espabh, espactbh, tot
SM_SuccUpdPdpContextGgsn_G	ACCUMULATION	INT8	The number of successfully handled GGSN-Initiated PDP context update procedures for QoS renegotiation. These updates are performed	SM_nonindexed.SM_SuccUpdPdpContextGgsn_G	Sum, esgtpbh, espabh, espactbh, tot

			successfully when a positive update PDP context response is received from the SGSN. Only QoS renegotiation procedures are counted.		
SM_UnsuccActPdpContextCamel_G	ACCUMULATION	INT8	Number of unsuccessful primary PDP context activation procedures per SGSN, due to PDP context activation denial, received from the gsmSCF.	SM_nonindexed.SM_UnsuccActPdpContextCamel_G	Sum, esgtpbh, espabh, espactbh, tot
SM_UnsuccActPdpContextCC38_G	ACCUMULATION	INT8	The number of unsuccessful PDP Context procedures per SGSN due to cause code #38 (Network failure).	SM_nonindexed.SM_UnsuccActPdpContextCC38_G	Sum, esgtpbh, espabh, espactbh, tot
SuccActPdpContextDyn	ACCUMULATION	INT8	Number of successful dynamic PDP context activations procedures initiated by MS	SM_nonindexed.SM_SuccActPdpContextDyn_G	Sum, esgtpbh, espabh, espactbh, tot
SuccActPdpContext	ACCUMULATION	INT8	Number of successful PDP context activations procedures initiated by MS	SM_nonindexed.SM_SuccActPdpContext_G	Sum, esgtpbh, espabh, espactbh, tot
SuccDeactPdpContextGgsn	ACCUMULATION	INT8	Number of successfully handled PDP context deactivations initiated by the GGSN.	SM_nonindexed.SM_SuccDeactPdpContextGgsn_G	Sum, esgtpbh, espabh, espactbh, tot
SuccDeactPdpContextMs	ACCUMULATION	INT8	Number of successfully completed PDP context deactivations.	SM_nonindexed.SM_SuccDeactPdpContextMs_G	Sum, esgtpbh, espabh, espactbh, tot
SuccDeactPdpContextSgsn	ACCUMULATION	INT8	Number of successfully handled PDP context deactivations initiated by the SGSN.	SM_nonindexed.SM_SuccDeactPdpContextSgsn_G	Sum, esgtpbh, espabh, espactbh, tot
SuccModPdpContextMs	ACCUMULATION	INT8	Number of successfully handled MS-Initiated PDP Context Modifications	SM_nonindexed.SM_SuccModPdpContextMs_G	Sum, esgtpbh, espabh, espactbh, tot

			procedures. These modifications are performed successfully when a positive Modify PDP Context Accept is received from the MS.		
SuccModPdpContextSgsn	ACCUMULATION	INT8	Number of successfully handled SGSN-initiated PDP Context Modifications procedures. These modifications are performed successfully when a positive Modify PDP Context Accept is received from the MS.	SM_nonindexed.SM_SuccModPdpContextSgsn_G	Sum, esgtpbh, espabh, espactbh, tot
SuccUpdPdpContextSgsn	ACCUMULATION	INT8	Number of successfully handled SGSN-initiated PDP Context Update procedures. These updates are performed successfully when a positive Update PDP Context response is received from the GGSN.	SM_nonindexed.SM_SuccUpdPdpContextSgsn_G	Sum, esgtpbh, espabh, espactbh, tot
Tot_AttActPdpContext	ACCUMULATION	INT8	Number of attempted PDP context (included Dynamic) activation procedures initiated by MS	{AttActPdpContext}	Sum, esgtpbh, espabh, espactbh, tot
Tot_SuccActPdpContext	ACCUMULATION	INT8	Obsolete in R6.0.Number of successful PDP context (included Dynamic) activation procedures initiated by MS	{SuccActPdpContext}	Sum, esgtpbh, espabh, espactbh, tot
UnsuccActPdpContextCC26	ACCUMULATION	INT8	Number of unsuccessful PDP Context procedures per SGSN due to cause code #26 (Insufficient resources).	SM_nonindexed.SM_UnsuccActPdpContextCC26_G	Sum, esgtpbh, espabh, espactbh, tot
UnsuccActPdpContextCC27_28	ACCUMULATION	INT8	Number of unsuccessful PDP Context procedures per SGSN due to cause	SM_nonindexed.SM_UnsuccActPdpContextCC27_28_G	Sum, esgtpbh, espabh, espactbh, tot

			code #27 (Unknown or missing access point name) and cause code #28 (Unknown PDP address or PDP type).		
UnsuccActPdpContextCC29	ACCUMULATION	INT8	Number of unsuccessful PDP Context procedures per SGSN due to cause code #29 (User Authentication Failed).	SM_nonindexed.SM_UnsuccActPdpContextCC29_G	Sum, esgtpbh, espabh, espactbh, tot
UnsuccActPdpContextCC32_33	ACCUMULATION	INT8	Number of unsuccessful PDP Context procedures per SGSN due to cause code #32 (Service option not supported) and cause code #33 (Requested Server Option not subscribed).	SM_nonindexed.SM_UnsuccActPdpContextCC32_33_G	Sum, esgtpbh, espabh, espactbh, tot

8.18.21 SGSN.Ericsson.UMTS.Short_messages_for_UMTS

Statistic measurements for the Short Message Service for the UMTS Network

KPI	Type	Data Type	Description	Derivation	Aggregation
_%_SuccMoPS	PERCENTAGE	FLOAT	Percentage of successful PS SMS Mobile Originating attempts.	100 * {SuccMoPS}/{AttMoPS}	Average, avg, es3gtpbh, es3pabh, es3pactbh
_%_SuccMtPS	PERCENTAGE	FLOAT	Percentage of successful PS SMS Mobile Terminating attempts.	100 * {SuccMtPS}/{AttMtPS}	Average, avg, es3gtpbh, es3pabh, es3pactbh
AttMoPS	ACCUMULATION	INT8	Number of PS SMS Mobile Originating attempts.	SMS.SMS_AttMoPS_U	Sum, es3gtpbh, es3pabh, es3pactbh, tot
AttMtPS	ACCUMULATION	INT8	Number of PS SMS Mobile Terminating attempts.	SMS.SMS_AttMtPS_U	Sum, es3gtpbh, es3pabh, es3pactbh, tot
SuccMoPS	ACCUMULATION	INT8	Number of successful PS SMS Mobile Originating attempts.	SMS.SMS_SuccMoPS_U	Sum, es3gtpbh, es3pabh, es3pactbh, tot

SuccMtPS	ACCUMULATION	INT8	Number of successful PS SMS Mobile Terminating attempts.	SMS.SMS_SuccMtPS_U	Sum, es3gtpbh, es3pabh, es3pactbh, tot

8.18.22 SGSN.Ericsson.UMTS.Short_Message

Statistic measurements for the Short Message Service

KPI	Type	Data Type	Description	Derivation	Aggregation
_%_SuccMoPS	PERCENTAGE	FLOAT	Percentage of successful PS SMS Mobile Originating attempts.	100 * {SuccMoPS}/{AttMoPS}	Average, avg, esgtpbh, espabh, espactbh
_%_SuccMtPS	PERCENTAGE	FLOAT	Percentage of successful PS SMS Mobile Terminating attempts.	100 * {SuccMtPS}/{AttMtPS}	Average, avg, esgtpbh, espabh, espactbh
AttMoPS	ACCUMULATION	INT8	Number of PS SMS Mobile Originating attempts.	SMS.SMS_AttMoPS_G	Sum, esgtpbh, espabh, espactbh, tot
AttMtPS	ACCUMULATION	INT8	Number of PS SMS Mobile Terminating attempts.	SMS.SMS_AttMtPS_G	Sum, esgtpbh, espabh, espactbh, tot
SuccMoPS	ACCUMULATION	INT8	Number of successful PS SMS Mobile Originating attempts.	SMS.SMS_SuccMoPS_G	Sum, esgtpbh, espabh, espactbh, tot
SuccMtPS	ACCUMULATION	INT8	Number of successful PS SMS Mobile Terminating attempts.	SMS.SMS_SuccMtPS_G	Sum, esgtpbh, espabh, espactbh, tot

8.18.23 SGSN.Ericsson.UMTS.SS7_Stack

SS7 stack statistics

KPI	Type	Data Type	Description	Derivation	Aggregation
ss7AssocAvlForUP	ACCUMULATION	INT8	Number of times associations are available for UP	SS7_nonindexed.ss7AssocAvlForUP	Sum, esgtpbh, espabh, espactbh, tot

			traffic.		
ss7AssocUnavlForUP	ACCUMULATION	INT8	Number of times associations are unavailable for User Part (UP) traffic.	SS7_nonindexed.ss7AssocUnavlForUP	Sum, esgtpbh, espabh, espactbh, tot
ss7MsgDiscardedOPCScreening	ACCUMULATION	INT8	Number of discarded MSU packets received.	SS7_nonindexed.ss7MessageDiscardedOPCScreening	Sum, esgtpbh, espabh, espactbh, tot
ss7MSUDiscardError	ACCUMULATION	INT8	Message signalling unit (MSU) is discarded due to routing data error	SS7_nonindexed.ss7MSUDiscardError	Sum, esgtpbh, espabh, espactbh, tot
ss7NoOfRunDialTot	INTENSITY	INTEGER	Number of running dialogues, total.	SS7_nonindexed.ss7NoOfRunDialTot	Average, avg, esgtpbh, espabh, espactbh, max, min, tot
ss7NoOfRunOpTot	INTENSITY	INTEGER	Number of running operations, total.	SS7_nonindexed.ss7NoOfRunOpTot	Average, avg, esgtpbh, espabh, espactbh, max, min, tot
ss7ProtocolErrorComp	ACCUMULATION	INT8	Protocol error detected in component portion	SS7_nonindexed.ss7ProtocolErrorComp	Sum, esgtpbh, espabh, espactbh, tot
ss7ProtocolErrorTraA	ACCUMULATION	INT8	Protocol error occurred, since P-abort is unrecognized transaction identity (TID)	SS7_nonindexed.ss7ProtocolErrorTraA	Sum, esgtpbh, espabh, espactbh, tot
ss7ProtocolErrorTraD	ACCUMULATION	INT8	Protocol error occurred, since P-abort is unrecognized message type	SS7_nonindexed.ss7ProtocolErrorTraD	Sum, esgtpbh, espabh, espactbh, tot
ss7SPInaccess	ACCUMULATION	INT8	Adjacent signalling point (SP) is inaccessible	SS7_nonindexed.ss7SPInaccess	Sum, esgtpbh, espabh, espactbh, tot

ss7TCMessageReceive	ACCUMULATION	INT8	Number of TC messages received by the stack	SS7_nonindexed.ss7TCMessageReceive	Sum, esgtpbh, espabh, espactbh, tot
ss7TCMessageSent	ACCUMULATION	INT8	Number of transaction capability (TC) messages sent by the stack	SS7_nonindexed.ss7TCMessageSent	Sum, esgtpbh, espabh, espactbh, tot

8.18.24 SGSN.Ericsson.UMTS.Subnetwork_dependent_convergence_protocol

Statistic measurements for the Subnetwork Dependent Convergence Protocol (SNDCP)

KPI	Type	Data Type	Description	Derivation	Aggregation
downlinkSndcpNpduSent	ACCUMULATION	INT8	Number of outgoing N-PDUs sent by the SNDCP protocol layer.	SNDCP.downlinkSndcpNpduSent	Sum, esgtpbh, espabh, espactbh, tot
downlinkSndcpOctetSent	ACCUMULATION	INT8	Number of octets in outgoing N-PDUs sent by the SNDCP protocol layer. The unit for this counter is kOctets (1024 octets).	SNDCP.downlinkSndcpOctetSent	Sum, esgtpbh, espabh, espactbh, pcl95, tot
uplinkSndcpNpduReceived	ACCUMULATION	INT8	Number of incoming N-PDUs received by the SNDCP protocol layer.	SNDCP.uplinkSndcpNpduReceived	Sum, esgtpbh, espabh, espactbh, tot
uplinkSndcpOctetReceivedMode	ACCUMULATION	INT8	Number of octets in incoming N-PDUs received by the SNDCP protocol layer. The unit for this counter is kOctets (1024 octets).	SNDCP.uplinkSndcpOctetReceivedMode	Sum, esgtpbh, espabh, espactbh, pcl95, tot

8.18.25 SGSN.Ericsson.UMTS.WCDMA_GSM_Intersystem_Change

WCDMA-GSM intersystem change statistics

KPI	Type	Data Type	Description	Derivation	Aggregation
_%_ISYSC_SuccIntraSgsnGsmUmtsRau	PERCENTAGE	FLOAT	The percentage of successful intra-SGSN inter-system changes from GSM to WCDMA Systems.	100 * {ISYSC_SuccIntraSgsnGsmUmtsRau}/{ISYSC_AttIntraSgsnGsmUmtsRau}	Average, avg, esgtpbh, espabh, espactbh
_%_ISYSC_SuccIntraSgsnUmtsGsmRau	PERCENTAGE	FLOAT	The percentage of successful intra-SGSN inter-system changes from WCDMA Systems to GSM.	100 * {ISYSC_SuccIntraSgsnUmtsGsmRau}/{ISYSC_AttIntraSgsnUmtsGsmRau}	Average, avg, esgtpbh, espabh, espactbh
ISYSC_AttIntraSgsnGsmUmtsRau	ACCUMULATION	INT8	The number of attempted intra-SGSN inter-system changes from GSM to WCDMA Systems.	ISYSC.ISYSC_AttIntraSgsnGsmUmtsRau	Sum, esgtpbh, espabh, espactbh, tot
ISYSC_AttIntraSgsnUmtsGsmRau	ACCUMULATION	INT8	The number of attempted intra-SGSN inter-system changes	ISYSC.ISYSC_AttIntraSgsnUmtsGsmRau	Sum, esgtpbh, espabh, espactbh, tot

			from WCDMA Systems to GSM.		
ISYSC_SuccIntraSgsnGsmUmtsRau	ACCUMULATION	INT8	The number of successful intra-SGSN inter-system changes from GSM to WCDMA Systems.	ISYSC.ISYSC_SuccIntraSgsnGsmUmtsRau	Sum, esgtpbh, espabh, espactbh, tot
ISYSC_SuccIntraSgsnUmtsGsmRau	ACCUMULATION	INT8	The number of successful intra-SGSN inter-system changes from WCDMA Systems to GSM.	ISYSC.ISYSC_SuccIntraSgsnUmtsGsmRau	Sum, esgtpbh, espabh, espactbh, tot

8.19 Signalling_Association Performance Indicators

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

- Signalling_Association.Ericsson.UMTS.M3UA

8.19.1 Signalling_Association.Ericsson.UMTS.M3UA

SS7 association statistic

KPI	Type	Data Type	Description	Derivation	Aggregation
ss7MessageSentPerAssociation	ACCUMULATION	INT8	Number of Message Signal Units (MSUs) sent on the MTP-L3 User Adaptation Layer (M3UA) association.	M3UA.ss7MessageSentPerAssociation	Sum, esgtpbh, espabh, espactbh, tot
ss7MsgReceivedPerAssociation	ACCUMULATION	INT8	Number of Message Signal Units (MSUs) received on the MTP-L3 User Adaptation Layer (M3UA) association.	M3UA.ss7MessageReceivedPerAssociation	Sum, esgtpbh, espabh, espactbh, tot
ss7OctetsSentPerAssociation	ACCUMULATION	INT8	Number of KB sent by M3UA on an M3UA association.	M3UA.ss7OctetsSentPerAssociation	Sum, esgtpbh, espabh, espactbh, tot
ss7OctReceivedPerAssociation	ACCUMULATION	INT8	Number of KB received by M3UA on an M3UA association.	M3UA.ss7OctetsReceivedPerAssociation	Sum, esgtpbh, espabh, espactbh, tot

8.20 Signalling_Point Performance Indicators

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

8.20.1 Signalling_Point.Ericsson.UMTS.SS7_Stack_for_UMTS

SS7 stack statistics for UMTS

KPI	Type	Data	Description	Derivation	Aggregation

		Type			
ss7MessageOrigCR	ACCUMULATION	INT8	Number of Connection Request messages sent.	SS7_Index.ss7MessageOrigCR	Sum, tot
ss7MessageOrigDT1	ACCUMULATION	INT8	Number of Data Form 1 messages sent (Connection Oriented data).	SS7_Index.ss7MessageOrigDT1	Sum, tot
ss7MessageOrigRLSD	ACCUMULATION	INT8	Number of Released messages sent.	SS7_Index.ss7MessageOrigRLSD	Sum, tot
ss7MessageTermCR	ACCUMULATION	INT8	Number of Connection Request messages received.	SS7_Index.ss7MessageTermCR	Sum, tot
ss7MessageTermDT1	ACCUMULATION	INT8	Number of Data Form 1 messages received (Connection Oriented data).	SS7_Index.ss7MessageTermDT1	Sum, tot
ss7MessageTermRLSD	ACCUMULATION	INT8	Number of Released messages received.	SS7_Index.ss7MessageTermRLSD	Sum, tot
ss7NoOfCurrRunConnTot	INTENSITY	INTEGER	Number of currently running connections total	SS7_Index.ss7NoOfCurrRunConnTot	Average, avg, max, min, tot

8.20.2 Signalling_Point.Ericsson.UMTS.SS7_Stack

SS7 stack statistics

KPI	Type	Data Type	Description	Derivation	Aggregation
ss7MessageOrigUDT	ACCUMULATION	INT8	Number of unit data (UDT) messages originated per class and source	SS7_Index.ss7MessageOrigUDT	Sum, tot
ss7MessageOrigXUDT	ACCUMULATION	INT8	Number of extended unit data (XUDT) messages originated per class and source	SS7_Index.ss7MessageOrigXUDT	Sum, tot
ss7MessageTermUDT	ACCUMULATION	INT8	Number of UDT messages terminated per class and sink	SS7_Index.ss7MessageTermUDT	Sum, tot
ss7MessageTermXUDT	ACCUMULATION	INT8	Number of XUDT messages, that are terminated	SS7_Index.ss7MessageTermXUDT	Sum, tot
ss7NoOfIncSegMes	ACCUMULATION	INT8	Number of incoming segmented messages.	SS7_Index.ss7NoOfIncSegMes	Sum, tot

8.21 Subsystem Performance Indicators

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

- Subsystem.Ericsson.UMTS.TCAP

8.21.1 Subsystem.Ericsson.UMTS.TCAP

SS7 TCAP statistics

KPI	Type	Data Type	Description	Derivation	Aggregation
ss7NoOfRunDialPerSsn	INTENSITY	INTEGER	Number of running TCAP dialogs per SSN.	Ssn.ss7NoOfRunDialPerSsn	Average, avg, max, min, tot
ss7NoOfRunOpPerSsn	INTENSITY	INTEGER	Number of running TCAP operations per SSN.	Ssn.ss7NoOfRunOpPerSsn	Average, avg, max, min, tot

8.22 Tunnel_Association Performance Indicators

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

- Tunnel_Association.Ericsson.UMTS.GRE_TA

8.22.1 Tunnel_Association.Ericsson.UMTS.GRE_TA

Generic Routing Encapsulation (GRE) Tunnel Association statistics

KPI	Type	Data	Description	Derivation	Aggregation

		Type			
greTaCurrentBytes	ACCUMULATION	INT8	Number of bytes transferred including the tunnel overhead.	GRE_TA.greTaCurrentBytes	Sum, esgtpbh, espabh, espactbh, tot
greTaPacketsNotOk	ACCUMULATION	INT8	Number of incorrect packets processed associated with the current TA.	GRE_TA.greTaPacketsNotOk	Sum, esgtpbh, espabh, espactbh, tot
greTaPacketsOk	ACCUMULATION	INT8	Number of correct packets processed associated with the current TA.	GRE_TA.greTaPacketsOk	Sum, esgtpbh, espabh, espactbh, tot

9. Performance Alarms

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

None.

10. 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.

10.1 IP_Interface Reports.

This section shows reports for the IP_Interface object.

10.1.1 IP Traffic Report

IP Traffic Report

Report Feature	Details
Report Tree Branch	System.UMTS.Engineering.SGSN.Ericsson.IP_Interface
Primary Object	IP_Interface
IP Traffic	IP_Interface.Interface_Id, IP_Interface.Node_Id, IP_Interface.Ericsson.IP_Traffic.ifInDiscards, IP_Interface.Ericsson.IP_Traffic.ifInOctets, IP_Interface.Ericsson.IP_Traffic.ifInPkts, IP_Interface.Ericsson.IP_Traffic.ifOutDiscards, IP_Interface.Ericsson.IP_Traffic.ifOutOctets, IP_Interface.Ericsson.IP_Traffic.ifOutPkts

10.2 NSVC Reports.

This section shows reports for the NSVC object.

- BSS GPRS Protocol Measurements Report

10.2.1 BSS GPRS Protocol Measurements Report

BSS GPRS Protocol Measurements Report

Report Feature	Details
Report Tree Branch	System.UMTS.Engineering.SGSN.Ericsson.NSVC
Primary Object	NSVC
BSSGP	NSVC.NSVC_Id, NSVC.SGSN_Id, NSVC.Ericsson.BSSGP.Total_BSSGP_Octets, NSVC.Ericsson.BSSGP.Total_BSSGP_Packets, NSVC.Ericsson.BSSGP.Total_BSSGP_Signalling_Packets
Downlink	NSVC.NSVC_Id, NSVC.SGSN_Id, NSVC.Ericsson.BSSGP.bssgpDownlinkOctets, NSVC.Ericsson.BSSGP.bssgpDownlinkPackets, NSVC.Ericsson.BSSGP.bssgpDownlinkPacketsSignalling
Uplink	NSVC.NSVC_Id, NSVC.SGSN_Id, NSVC.Ericsson.BSSGP.bssgpUplinkOctets, NSVC.Ericsson.BSSGP.bssgpUplinkPackets, NSVC.Ericsson.BSSGP.bssgpUplinkPacketsSignalling

10.3 SGSN Reports.

This section shows reports for the SGSN object.

- GPRS CAMEL Report
- GPRS GTP Report
- GPRS Mobility Management Attach Procedures
- GPRS Mobility Management Discarded Requests

- GPRS Mobility Management Paging Procedures
- GPRS Mobility Management RA Update Report
- GPRS Mobility Management Subscribers Report
- GPRS MS Security Report
- GPRS PDP Context Activations Report
- GPRS PDP Context Deactivations Report
- GPRS PDP Context Modifications Report
- GPRS PDP Context Updates Report
- GPRS QOS Active PDP Contexts Report
- GPRS QOS Downlink and Uplink Packets Report
- GPRS RAB Assignment Report
- GPRS Short Message Report
- GPRS SS7 Stack Report
- UMTS CAMEL Report
- UMTS GTP Report
- UMTS Mobility Management Attach Procedures
- UMTS Mobility Management Paging Procedures
- UMTS Mobility Management RA Update Report
- UMTS Mobility Management Subscribers Report
- UMTS MS Security Report
- UMTS PDP Context Activations Report
- UMTS PDP Context Deactivations Report
- UMTS PDP Context Modifications Report
- UMTS PDP Context Updates Report
- UMTS QOS Active PDP Contexts Report
- UMTS QOS Downlink Packets Report
- UMTS Short Message Report
- WCDMA GSM Intersystem Change Report

10.3.1 GPRS CAMEL Report

GPRS CAMEL Report

Report Feature	Details

Report Tree Branch	System.UMTS.Engineering.SGSN.Ericsson.SGSN
Primary Object	SGSN
CAMEL Dialogue	SGSN.SGSN_Id, SGSN.Ericsson.CAMEL.AttCamelDialogues, SGSN.Ericsson.CAMEL.FailDialoguesScf, SGSN.Ericsson.CAMEL.FailDialoguesSsf

10.3.2 GPRS GTP Report

GPRS GTP Report

Report Feature	Details
Report Tree Branch	System.UMTS.Engineering.SGSN.Ericsson.SGSN
Primary Object	SGSN
GTP	SGSN.SGSN_Id, SGSN.Ericsson.GTP_payload.InDataOctGn, SGSN.Ericsson.GTP_payload.InDataPktGn, SGSN.Ericsson.GTP_payload.OutDataOctGn, SGSN.Ericsson.GTP_payload.OutDataPktGn, SGSN.Ericsson.GTP_payload.PayloadgtpuErrorPkt, SGSN.Ericsson.GTP_payload.Tot_DataOctGn, SGSN.Ericsson.GTP_payload.Tot_DataPktGn

10.3.3 GPRS Mobility Management Attach Procedures

GPRS Mobility Management Attach Procedures Report

Report Feature	Details
Report Tree Branch	System.UMTS.Engineering.SGSN.Ericsson.SGSN
Primary Object	SGSN

Attach Procedures	SGSN.SGSN_Id, SGSN.Ericsson.Mobility_Management._%_succCombiAttach (DA), SGSN.Ericsson.Mobility_Management._%_succGprsAttach (DA), SGSN.Ericsson.Mobility_Management._%_succImsiAttach (DA), SGSN.Ericsson.Mobility_Management.AttCombiAttach (DA), SGSN.Ericsson.Mobility_Management.AttGprsAttach (DA), SGSN.Ericsson.Mobility_Management.AttImsiAttach (DA), SGSN.Ericsson.Mobility_Management.SuccCombiAttach (DA), SGSN.Ericsson.Mobility_Management.SuccGprsAttach (DA), SGSN.Ericsson.Mobility_Management.SuccImsiAttach (DA), SGSN.Ericsson.Mobility_Management.Total_UnsuccAttach (DA)
Detach Procedures	SGSN.SGSN_Id, SGSN.Ericsson.Mobility_Management._%_succGprsDetachSgsn (DA), SGSN.Ericsson.Mobility_Management.AttCombiDetachMs (DA), SGSN.Ericsson.Mobility_Management.AttGprsDetachMs (DA), SGSN.Ericsson.Mobility_Management.AttDetachInactiveSub (DA), SGSN.Ericsson.Mobility_Management.AttGprsDetachSgsn (DA), SGSN.Ericsson.Mobility_Management.SuccGprsDetachSgsn (DA), SGSN.Ericsson.Mobility_Management.attImsiDetachMS (DA)

10.3.4 GPRS Mobility Management Discarded Requests

GPRS Mobility Management Discarded Requests Report

Report Feature	Details
Report Tree Branch	System.UMTS.Engineering.SGSN.Ericsson.SGSN
Primary Object	SGSN
Discarded Requests	SGSN.SGSN_Id, SGSN.Ericsson.Mobility_Management.discardedCombiAttach (DA), SGSN.Ericsson.Mobility_Management.discardedCombiRaUpdate (DA), SGSN.Ericsson.Mobility_Management.discardedDetach (DA), SGSN.Ericsson.Mobility_Management.discardedGprsAttach (DA), SGSN.Ericsson.Mobility_Management.discardedRaUpdate (DA)

10.3.5 GPRS Mobility Management Paging Procedures

GPRS Mobility Management Paging Procedures Report

Report Feature	Details
Report Tree Branch	System.UMTS.Engineering.SGSN.Ericsson.SGSN

Primary Object	SGSN
Paging Procedures	SGSN.SGSN_Id, SGSN.Ericsson.Mobility_Management.gprsMmSgsnPagingProcedures (DA), SGSN.Ericsson.Mobility_Management.gprsMmSgsnSuccessfulPagingProcedures (DA), SGSN.Ericsson.Mobility_Management.unsuccPacketSwitchingPaging (DA), SGSN.Ericsson.Mobility_Management.AttPacketSwitchingPaging (DA)

10.3.6 GPRS Mobility Management RA Update Report

GPRS Mobility Management RA Update Report

Report Feature	Details
Report Tree Branch	System.UMTS.Engineering.SGSN.Ericsson.SGSN
Primary Object	SGSN
Routing Area Update Failure	SGSN.SGSN_Id, SGSN.Ericsson.Mobility_Management.MM_UnsuccInterSgsnRauCC14_G (DA), SGSN.Ericsson.Mobility_Management.MM_UnsuccInterSgsnRauCC17_G (DA), SGSN.Ericsson.Mobility_Management.MM_UnsuccInterSgsnRauCC9_G (DA), SGSN.Ericsson.Mobility_Management.MM_UnsuccIntraSgsnRauCC14_G (DA), SGSN.Ericsson.Mobility_Management.MM_UnsuccIntraSgsnRauCC17_G (DA)
Routing Area Update Procedures	SGSN.SGSN_Id, SGSN.Ericsson.Mobility_Management._%_succInterSgsnRaUpdate (DA), SGSN.Ericsson.Mobility_Management._%_succIntraSgsnRaUpdate (DA), SGSN.Ericsson.Mobility_Management.AttIntraSgsnRaUpdate (DA), SGSN.Ericsson.Mobility_Management.SuccIntraSgsnRaUpdate (DA), SGSN.Ericsson.Mobility_Management.attInterSgsnRaUpdate (DA), SGSN.Ericsson.Mobility_Management.succInterSgsnRaUpdate (DA)

10.3.7 GPRS Mobility Management Subscribers Report

GPRS Mobility Management Subscribers Report

Report Feature	Details
Report Tree	System.UMTS.Engineering.SGSN.Ericsson.SGSN

Branch	
Primary Object	SGSN
Subscribers	SGSN.SGSN_Id, SGSN.Ericsson.Mobility_Management._%_NbrHomeSub (DA), SGSN.Ericsson.Mobility_Management._%_NbrVisitingForeign (DA), SGSN.Ericsson.Mobility_Management._%_NbrVisitingNatSub (DA), SGSN.Ericsson.Mobility_Management.NbrActAttachedSub (DA), SGSN.Ericsson.Mobility_Management.NbrHomeSub (DA), SGSN.Ericsson.Mobility_Management.MM_NbrCamelSub_G (DA), SGSN.Ericsson.Mobility_Management.NbrVisitingForeign (DA), SGSN.Ericsson.Mobility_Management.NbrVisitingNatSub (DA), SGSN.Ericsson.Mobility_Management.nbrDetachedInactiveSub (DA), SGSN.Ericsson.Mobility_Management.nbrOfSubReady (DA), SGSN.Ericsson.Mobility_Management.nbrOfSubStandby (DA), SGSN.Ericsson.Mobility_Management.subscribersInTransitionalState (DA)

10.3.8 GPRS MS Security Report

GPRS MS Security

Report Feature	Details
Report Tree Branch	System.UMTS.Engineering.SGSN.Ericsson.SGSN
Primary Object	SGSN
MS Security	SGSN.SGSN_Id, SGSN.Ericsson.MS_Security._%_SuccAuthProcsSgsnSim, SGSN.Ericsson.MS_Security._%_SuccAuthProcsSgsnUsim, SGSN.Ericsson.MS_Security._%_SuccIdentityReqImsi, SGSN.Ericsson.MS_Security._%_succAuthInSgsn, SGSN.Ericsson.MS_Security.AttAuthProcsSgsnSim, SGSN.Ericsson.MS_Security.AttAuthProcsSgsnUsim, SGSN.Ericsson.MS_Security.AttIdentityReqImsi, SGSN.Ericsson.MS_Security.SuccAuthProcsSgsnSim, SGSN.Ericsson.MS_Security.SuccAuthProcsSgsnUsim, SGSN.Ericsson.MS_Security.SuccIdentityReqImsi, SGSN.Ericsson.MS_Security.attAuthInSgsn

10.3.9 GPRS PDP Context Activations Report

GPRS PDP Context Activations Report

Report	Details

Feature	
Report Tree Branch	System.UMTS.Engineering.SGSN.Ericsson.SGSN
Primary Object	SGSN
%PDP Context Activations Success	SGSN.SGSN_Id, SGSN.Ericsson.Session_management._%_SM_SuccActPdpContextSgsnHome_G (DA), SGSN.Ericsson.Session_management._%_SuccActPdpContext (DA), SGSN.Ericsson.Session_management._%_SuccActPdpContextDyn (DA), SGSN.Ericsson.Session_management._%_SM_SuccActSecondPdpContext_G (DA)
PDP Context Activations	SGSN.SGSN_Id, SGSN.Ericsson.Session_management.SM_AttActPdpContextSgsnHome_G (DA), SGSN.Ericsson.Session_management.SM_SuccActPdpContextSgsnHome_G (DA), SGSN.Ericsson.Session_management.AttActPdpContext (DA), SGSN.Ericsson.Session_management.SuccActPdpContext (DA), SGSN.Ericsson.Session_management.AttActPdpContextDyn (DA), SGSN.Ericsson.Session_management.SuccActPdpContextDyn (DA), SGSN.Ericsson.Session_management.SM_AttActSecondPdpContext_G (DA), SGSN.Ericsson.Session_management.SM_SuccActSecondPdpContext_G (DA), SGSN.Ericsson.Session_management.gprsSmSgsnUnsuccessfulActivations (DA), SGSN.Ericsson.Session_management.NbrActPdpContext (DA), SGSN.Ericsson.Session_management.NbrActivePdpPerSgsn (DA)

10.3.10 GPRS PDP Context Deactivations Report

GPRS PDP Context Deactivations Report

Report Feature	Details
Report Tree Branch	System.UMTS.Engineering.SGSN.Ericsson.SGSN
Primary Object	SGSN
PDP Context Deactivations	SGSN.SGSN_Id, SGSN.Ericsson.Session_management._%_SuccDeactPdpContextGgsn (DA), SGSN.Ericsson.Session_management._%_SuccDeactPdpContextMs (DA), SGSN.Ericsson.Session_management._%_SuccDeactPdpContextSgsn (DA), SGSN.Ericsson.Session_management.AttDeactPdpContextGgsn (DA), SGSN.Ericsson.Session_management.AttDeactPdpContextMs (DA), SGSN.Ericsson.Session_management.AttDeactPdpContextSgsn (DA), SGSN.Ericsson.Session_management.SuccDeactPdpContextGgsn (DA), SGSN.Ericsson.Session_management.SuccDeactPdpContextMs (DA), SGSN.Ericsson.Session_management.SuccDeactPdpContextSgsn (DA), SGSN.Ericsson.Session_management.gprsSmSgsnDeactivations (DA)

10.3.11 GPRS PDP Context Modifications Report

GPRS PDP Context Modifications Report

Report Feature	Details
Report Tree Branch	System.UMTS.Engineering.SGSN.Ericsson.SGSN
Primary Object	SGSN
PDP Context Modifications	SGSN.SGSN_Id, SGSN.Ericsson.Session_management._%_SuccModPdpContextMs (DA), SGSN.Ericsson.Session_management._%_SuccModPdpContextSgsn (DA), SGSN.Ericsson.Session_management.AttModPdpContextMs (DA), SGSN.Ericsson.Session_management.SM_AttModPdpContextSgsn_G (DA), SGSN.Ericsson.Session_management.SuccModPdpContextMs (DA), SGSN.Ericsson.Session_management.SuccModPdpContextSgsn (DA), SGSN.Ericsson.Session_management.gprsSmSgsnUnsuccessfulModifications (DA)

10.3.12 GPRS PDP Context Updates Report

GPRS PDP Context Updates Report

Report Feature	Details
Report Tree Branch	System.UMTS.Engineering.SGSN.Ericsson.SGSN
Primary Object	SGSN
PDP Context Updates	SGSN.SGSN_Id, SGSN.Ericsson.Session_management.SM_AttUpdPdpContextSgsn_G (DA), SGSN.Ericsson.Session_management.SuccUpdPdpContextSgsn (DA), SGSN.Ericsson.Session_management._%_SuccUpdPdpContextSgsn (DA), SGSN.Ericsson.Session_management.SM_AttUpdPdpContextGgsn_G (DA), SGSN.Ericsson.Session_management.SM_SuccUpdPdpContextGgsn_G (DA), SGSN.Ericsson.Session_management._%_SM_SuccUpdPdpContextGgsn_G (DA)

10.3.13 GPRS QOS Active PDP Contexts Report

GPRS Quality of Service Active PDP Contexts Report

Report Feature	Details
Report Tree Branch	System.UMTS.Engineering.SGSN.Ericsson.SGSN
Primary Object	SGSN
Active PDP Contexts	SGSN.SGSN_Id, SGSN.Ericsson.QoS.QoS_NbrActConversationalPdpContext_G (DA), SGSN.Ericsson.QoS.QoS_NbrActInteractivePdpContext_G (DA), SGSN.Ericsson.QoS.QoS_NbrActStreamingPdpContext_G (DA)

10.3.14 GPRS QOS Downlink and Uplink Packets Report

GPRS Quality of Service Downlink and Uplink Packets Report

Report Feature	Details
Report Tree Branch	System.UMTS.Engineering.SGSN.Ericsson.SGSN
Primary Object	SGSN
Downlink Packets	SGSN.SGSN_Id, SGSN.Ericsson.QoS.DLPktDiscarded, SGSN.Ericsson.QoS.DLPktForwarded, SGSN.Ericsson.QoS.DLBackgroundPktDiscarded, SGSN.Ericsson.QoS.DLBackgroundPktForwarded, SGSN.Ericsson.QoS.DLInteractivePktDiscarded, SGSN.Ericsson.QoS.DLInteractivePktForwarded, SGSN.Ericsson.QoS.DLStreamingPktDiscarded, SGSN.Ericsson.QoS.DLStreamingPktForwarded, SGSN.Ericsson.QoS.QoS_DLConversationalPktDiscarded_G, SGSN.Ericsson.QoS.QoS_DLConversationalPktForwarded_G
Uplink Packets	SGSN.SGSN_Id, SGSN.Ericsson.QoS.ULBackgroundPktForwarded, SGSN.Ericsson.QoS.ULInteractivePktForwarded, SGSN.Ericsson.QoS.ULStreamingPktForwarded, SGSN.Ericsson.QoS.QoS_ULConversationalPktForwarded, SGSN.Ericsson.QoS.ULPktForwarded

10.3.15 GPRS RAB Assignment Report

GPRS RAB Assignment

Report Feature	Details
Report Tree Branch	System.UMTS.Engineering.SGSN.Ericsson.SGSN
Primary Object	SGSN
RAB Assignment	SGSN.SGSN_Id, SGSN.Ericsson.Session_management.SM_SuccRabAssignment, SGSN.Ericsson.Session_management.SM_AttRabAssignment, SGSN.Ericsson.Session_management._%_SM_SuccRabAssignment

10.3.16 GPRS Short Message Report

GPRS Short Message Report

Report Feature	Details
Report Tree Branch	System.UMTS.Engineering.SGSN.Ericsson.SGSN
Primary Object	SGSN
Short Message	SGSN.SGSN_Id, SGSN.Ericsson.Short_Message._%_SuccMoPS, SGSN.Ericsson.Short_Message._%_SuccMtPS, SGSN.Ericsson.Short_Message.AttMoPS, SGSN.Ericsson.Short_Message.AttMtPS, SGSN.Ericsson.Short_Message.SuccMoPS, SGSN.Ericsson.Short_Message.SuccMtPS

10.3.17 GPRS SS7 Stack Report

GPRS SS7 Stack Report

Report Feature	Details
Report Tree Branch	System.UMTS.Engineering.SGSN.Ericsson.SGSN
Primary Object	SGSN
SS7 Stack	SGSN.Ericsson.SS7_Stack.ss7SPInaccess, SGSN.Ericsson.SS7_Stack.ss7NoOfRunDialTot, SGSN.Ericsson.SS7_Stack.ss7NoOfRunOpTot, SGSN.SGSN_Id

10.3.18 UMTS CAMEL Report

UMTS CAMEL Report

Report Feature	Details
Report Tree Branch	System.UMTS.Engineering.SGSN.Ericsson.SGSN
Primary Object	SGSN
CAMEL Dialogue	SGSN.SGSN_Id, SGSN.Ericsson.CAMEL_UMTS.AttCamelDialogues, SGSN.Ericsson.CAMEL_UMTS.FailDialoguesScf, SGSN.Ericsson.CAMEL_UMTS.FailDialoguesSsf

10.3.19 UMTS GTP Report

UMTS GTP Report

Report Feature	Details
Report Tree Branch	System.UMTS.Engineering.SGSN.Ericsson.SGSN
Primary Object	SGSN
GTP	SGSN.SGSN_Id, SGSN.Ericsson.GTP_payload_for_UMTS.GTPtpuInDataOctIu, SGSN.Ericsson.GTP_payload_for_UMTS.GTPtpuInDataPktIu,

	SGSN.Ericsson.GTP_payload_for_UMTS.GTPtpuOutDataOctIu, SGSN.Ericsson.GTP_payload_for_UMTS.GTPtpuOutDataPktIu, SGSN.Ericsson.GTP_payload_for_UMTS.Tot_DatOctIu

10.3.20 UMTS Mobility Management Attach Procedures

UMTS Mobility Management Attach Procedures Report

Report Feature	Details
Report Tree Branch	System.UMTS.Engineering.SGSN.Ericsson.SGSN
Primary Object	SGSN
Attach Procedures	SGSN.SGSN_Id, SGSN.Ericsson.Mobility_Management_for_UMTS._%_succGprsAttachUmts, SGSN.Ericsson.Mobility_Management_for_UMTS.attGprsAttachUmts, SGSN.Ericsson.Mobility_Management_for_UMTS.succGprsAttachUmts, SGSN.Ericsson.Mobility_Management_for_UMTS.Total_UnsuccAttach
GPRS Detach Procedures	SGSN.SGSN_Id, SGSN.Ericsson.Mobility_Management_for_UMTS.attGprsDetachMsUmts, SGSN.Ericsson.Mobility_Management_for_UMTS.attGprsDetachSgsnUmts, SGSN.Ericsson.Mobility_Management_for_UMTS.succGprsDetachSgsnUmts, SGSN.Ericsson.Mobility_Management_for_UMTS._%_succGprsDetachSgsnUmts

10.3.21 UMTS Mobility Management Paging Procedures

UMTS Mobility Management Paging Procedures Report

Report Feature	Details
Report Tree Branch	System.UMTS.Engineering.SGSN.Ericsson.SGSN
Primary Object	SGSN

Paging Procedures	SGSN.SGSN_Id, SGSN.Ericsson.Mobility_Management_for_UMTS.succPacketSwitchingPagingUmts, SGSN.Ericsson.Mobility_Management_for_UMTS.attPacketSwitchingPagingUmts, SGSN.Ericsson.Mobility_Management_for_UMTS._%_succPacketSwitchingPagingUmts, SGSN.Ericsson.Mobility_Management_for_UMTS.unsuccPacketSwitchingPagingUmts, SGSN.Ericsson.Mobility_Management_for_UMTS._%_unsuccPacketSwitchingPagingUmts

10.3.22 UMTS Mobility Management RA Update Report

UMTS Mobility Management RA Update Report

Report Feature	Details
Report Tree Branch	System.UMTS.Engineering.SGSN.Ericsson.SGSN
Primary Object	SGSN
Routing Area Update Failure	SGSN.SGSN_Id, SGSN.Ericsson.Mobility_Management_for_UMTS.MM_UnsuccInterSgsnRauCC14_U, SGSN.Ericsson.Mobility_Management_for_UMTS.MM_UnsuccInterSgsnRauCC17_U, SGSN.Ericsson.Mobility_Management_for_UMTS.MM_UnsuccInterSgsnRauCC9_U, SGSN.Ericsson.Mobility_Management_for_UMTS.MM_UnsuccIntraSgsnRauCC14_U, SGSN.Ericsson.Mobility_Management_for_UMTS.MM_UnsuccIntraSgsnRauCC17_U
Routing Area Update Procedures	SGSN.SGSN_Id, SGSN.Ericsson.Mobility_Management_for_UMTS.attInterSgsnRaUpdateUmts, SGSN.Ericsson.Mobility_Management_for_UMTS.succInterSgsnRaUpdateUmts, SGSN.Ericsson.Mobility_Management_for_UMTS._%_succInterSgsnRaUpdateUmts, SGSN.Ericsson.Mobility_Management_for_UMTS.attIntraSgsnRaUpdateUmts, SGSN.Ericsson.Mobility_Management_for_UMTS.succIntraSgsnRaUpdateUmts, SGSN.Ericsson.Mobility_Management_for_UMTS._%_succIntraSgsnRaUpdateUmts

10.3.23 UMTS Mobility Management Subscribers Report

UMTS Mobility Management Subscribers Report

Report Feature	Details

Report Tree Branch	System.UMTS.Engineering.SGSN.Ericsson.SGSN
Primary Object	SGSN
Subscribers	SGSN.SGSN_Id, SGSN.Ericsson.Mobility_Management_for_UMTS._%_NbrHomeSub, SGSN.Ericsson.Mobility_Management_for_UMTS._%_NbrVisitingForeign, SGSN.Ericsson.Mobility_Management_for_UMTS._%_NbrVisitingNatSub, SGSN.Ericsson.Mobility_Management_for_UMTS.MM_NbrCamelSub_U, SGSN.Ericsson.Mobility_Management_for_UMTS.NbrActAttachedSub, SGSN.Ericsson.Mobility_Management_for_UMTS.NbrHomeSub, SGSN.Ericsson.Mobility_Management_for_UMTS.NbrVisitingForeign, SGSN.Ericsson.Mobility_Management_for_UMTS.NbrVisitingNatSub

10.3.24 UMTS MS Security Report

UMTS MS Security

Report Feature	Details
Report Tree Branch	System.UMTS.Engineering.SGSN.Ericsson.SGSN
Primary Object	SGSN
MS Security	SGSN.SGSN_Id, SGSN.Ericsson.MS_security_for_UMTS.AttAuthProcsSgsnSim, SGSN.Ericsson.MS_security_for_UMTS.SuccAuthProcsSgsnSim, SGSN.Ericsson.MS_security_for_UMTS.AttAuthProcsSgsnUsim, SGSN.Ericsson.MS_security_for_UMTS.SuccAuthProcsSgsnUsim, SGSN.Ericsson.MS_security_for_UMTS.AttIdentityReqImsi, SGSN.Ericsson.MS_security_for_UMTS.SuccIdentityReqImsi, SGSN.Ericsson.MS_security_for_UMTS.SEC_AttSecMode, SGSN.Ericsson.MS_security_for_UMTS.SEC_SuccSecMode

10.3.25 UMTS PDP Context Activations Report

UMTS PDP Context Activations Report

Report Feature	Details

Report Tree Branch	System.UMTS.Engineering.SGSN.Ericsson.SGSN
Primary Object	SGSN
%PDP Context Activations Success	SGSN.SGSN_Id, SGSN.Ericsson.Session_management_for_UMTS._%_SM_SuccActPdpContextSgsnHome_U, SGSN.Ericsson.Session_management_for_UMTS._%_SuccActPdpContext, SGSN.Ericsson.Session_management_for_UMTS._%_SuccActPdpContextDyn, SGSN.Ericsson.Session_management_for_UMTS._%_SM_SuccActSecondPdpContext_U
PDP Context Activations	SGSN.SGSN_Id, SGSN.Ericsson.Session_management_for_UMTS.SM_AttActPdpContextSgsnHome_U, SGSN.Ericsson.Session_management_for_UMTS.SM_SuccActPdpContextSgsnHome_U, SGSN.Ericsson.Session_management_for_UMTS.AttActPdpContext, SGSN.Ericsson.Session_management_for_UMTS.SuccActPdpContext, SGSN.Ericsson.Session_management_for_UMTS.AttActPdpContextDyn, SGSN.Ericsson.Session_management_for_UMTS.SuccActPdpContextDyn, SGSN.Ericsson.Session_management_for_UMTS.SM_AttActSecondPdpContext_U, SGSN.Ericsson.Session_management_for_UMTS.SM_SuccActSecondPdpContext_U, SGSN.Ericsson.Session_management_for_UMTS.NbrActPdpContext, SGSN.Ericsson.Session_management_for_UMTS.NbrActivePdpPerSgsn

10.3.26 UMTS PDP Context Deactivations Report

UMTS PDP Context Deactivations Report

Report Feature	Details
Report Tree Branch	System.UMTS.Engineering.SGSN.Ericsson.SGSN
Primary Object	SGSN
PDP Context Deactivations	SGSN.SGSN_Id, SGSN.Ericsson.Session_management_for_UMTS._%_SuccDeactPdpContextMs, SGSN.Ericsson.Session_management_for_UMTS._%_SuccDeactPdpContextSgsn, SGSN.Ericsson.Session_management_for_UMTS.AttDeactPdpContextGgsn, SGSN.Ericsson.Session_management_for_UMTS.AttDeactPdpContextMs, SGSN.Ericsson.Session_management_for_UMTS.AttDeactPdpContextSgsn, SGSN.Ericsson.Session_management_for_UMTS.SuccDeactPdpContextGgsn, SGSN.Ericsson.Session_management_for_UMTS.SuccDeactPdpContextMs, SGSN.Ericsson.Session_management_for_UMTS.SuccDeactPdpContextSgsn

10.3.27 UMTS PDP Context Modifications Report

UMTS PDP Context Modifications Report

Report Feature	Details
Report Tree Branch	System.UMTS.Engineering.SGSN.Ericsson.SGSN
Primary Object	SGSN
PDP Context Modifications	SGSN.SGSN_Id, SGSN.Ericsson.Session_management_for_UMTS._%_SM_SuccModPdpContextMs_U, SGSN.Ericsson.Session_management_for_UMTS._%_SuccModPdpContextSgsn, SGSN.Ericsson.Session_management_for_UMTS.AttModPdpContextSgsn, SGSN.Ericsson.Session_management_for_UMTS.SM_AttModPdpContextMs_U, SGSN.Ericsson.Session_management_for_UMTS.SM_SuccModPdpContextMs_U, SGSN.Ericsson.Session_management_for_UMTS.SuccModPdpContextSgsn

10.3.28 UMTS PDP Context Updates Report

UMTS PDP Context Updates Report

Report Feature	Details
Report Tree Branch	System.UMTS.Engineering.SGSN.Ericsson.SGSN
Primary Object	SGSN
PDP Context Updates	SGSN.SGSN_Id, SGSN.Ericsson.Session_management_for_UMTS._%_SuccUpdPdpContextSgsn, SGSN.Ericsson.Session_management_for_UMTS.AttUpdPdpContextSgsn, SGSN.Ericsson.Session_management_for_UMTS.SuccUpdPdpContextSgsn, SGSN.Ericsson.Session_management_for_UMTS._%_SM_SuccUpdPdpContextGgsn_U, SGSN.Ericsson.Session_management_for_UMTS.SM_AttUpdPdpContextGgsn_U, SGSN.Ericsson.Session_management_for_UMTS.SM_SuccUpdPdpContextGgsn_U

10.3.29 UMTS QOS Active PDP Contexts Report

UMTS Quality of Service Active PDP Contexts Report

Report Feature	Details
Report Tree Branch	System.UMTS.Engineering.SGSN.Ericsson.SGSN
Primary Object	SGSN
Active PDP Contexts	SGSN.SGSN_Id, SGSN.Ericsson.QoS_for_UMTS.QoS_NbrActConversationalPdpContext_U, SGSN.Ericsson.QoS_for_UMTS.QoS_NbrActInteractivePdpContext_U, SGSN.Ericsson.QoS_for_UMTS.QoS_NbrActStreamingPdpContext_U

10.3.30 UMTS QOS Downlink Packets Report

UMTS Quality of Service Downlink Packets Report

Report Feature	Details
Report Tree Branch	System.UMTS.Engineering.SGSN.Ericsson.SGSN
Primary Object	SGSN
Downlink Packets	SGSN.SGSN_Id, SGSN.Ericsson.QoS_for_UMTS.DLPktDiscarded, SGSN.Ericsson.QoS_for_UMTS.DLPktForwarded, SGSN.Ericsson.QoS_for_UMTS.DLBackgroundPktDiscarded, SGSN.Ericsson.QoS_for_UMTS.DLBackgroundPktForwarded, SGSN.Ericsson.QoS_for_UMTS.DLInteractivePktDiscarded, SGSN.Ericsson.QoS_for_UMTS.DLInteractivePktForwarded, SGSN.Ericsson.QoS_for_UMTS.DLStreamingPktDiscarded, SGSN.Ericsson.QoS_for_UMTS.DLStreamingPktForwarded, SGSN.Ericsson.QoS_for_UMTS.QoS_DLConversationalPktDiscarded_U, SGSN.Ericsson.QoS_for_UMTS.QoS_DLConversationalPktForwarded_U

10.3.31 UMTS Short Message Report

UMTS Short Message Report

Report Feature	Details
Report Tree Branch	System.UMTS.Engineering.SGSN.Ericsson.SGSN
Primary Object	SGSN
Short Message	SGSN.SGSN_Id, SGSN.Ericsson.Short_messages_for_UMTS._%_SuccMoPS, SGSN.Ericsson.Short_messages_for_UMTS._%_SuccMtPS, SGSN.Ericsson.Short_messages_for_UMTS.AttMoPS, SGSN.Ericsson.Short_messages_for_UMTS.AttMtPS, SGSN.Ericsson.Short_messages_for_UMTS.SuccMoPS, SGSN.Ericsson.Short_messages_for_UMTS.SuccMtPS

10.3.32 WCDMA GSM Intersystem Change Report

WCDMA GSM Intersystem Change Report

Report Feature	Details
Report Tree Branch	System.UMTS.Engineering.SGSN.Ericsson.SGSN
Primary Object	SGSN
WCDMA GSM Intersystem Change	SGSN.SGSN_Id, SGSN.Ericsson.WCDMA_GSM_Intersystem_Change._%_ISYSC_SuccIntraSgsnGsmUmtsRau, SGSN.Ericsson.WCDMA_GSM_Intersystem_Change._%_ISYSC_SuccIntraSgsnUmtsGsmRau, SGSN.Ericsson.WCDMA_GSM_Intersystem_Change.ISYSC_AttIntraSgsnGsmUmtsRau, SGSN.Ericsson.WCDMA_GSM_Intersystem_Change.ISYSC_AttIntraSgsnUmtsGsmRau, SGSN.Ericsson.WCDMA_GSM_Intersystem_Change.ISYSC_SuccIntraSgsnGsmUmtsRau, SGSN.Ericsson.WCDMA_GSM_Intersystem_Change.ISYSC_SuccIntraSgsnUmtsGsmRau

10.4 MagSlot_interface Reports.

This section shows reports for the MagSlot_interface object.

- UMTS SS7 Stack Report

10.4.1 UMTS SS7 Stack Report

UMTS SS7 Stack Report

Report Feature	Details
Report Tree Branch	System.UMTS.Engineering.SGSN.Ericsson.MagSlot_interface
Primary Object	MagSlot_interface
SS7 Stack	MagSlot_interface.Interface_Id, MagSlot_interface.SGSN_Id, MagSlot_interface.Ericsson.SS7_Stack_for_UMTS.ss7MessageOrigCR, MagSlot_interface.Ericsson.SS7_Stack_for_UMTS.ss7MessageOrigDT1, MagSlot_interface.Ericsson.SS7_Stack_for_UMTS.ss7MessageOrigRLSD, MagSlot_interface.Ericsson.SS7_Stack_for_UMTS.ss7MessageTermCR, MagSlot_interface.Ericsson.SS7_Stack_for_UMTS.ss7MessageTermDT1, MagSlot_interface.Ericsson.SS7_Stack_for_UMTS.ss7MessageTermRLSD, MagSlot_interface.Ericsson.SS7_Stack_for_UMTS.ss7NoOfCurrRunConnTot

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This appendix contains the following:

- Notices
- Trademarks

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