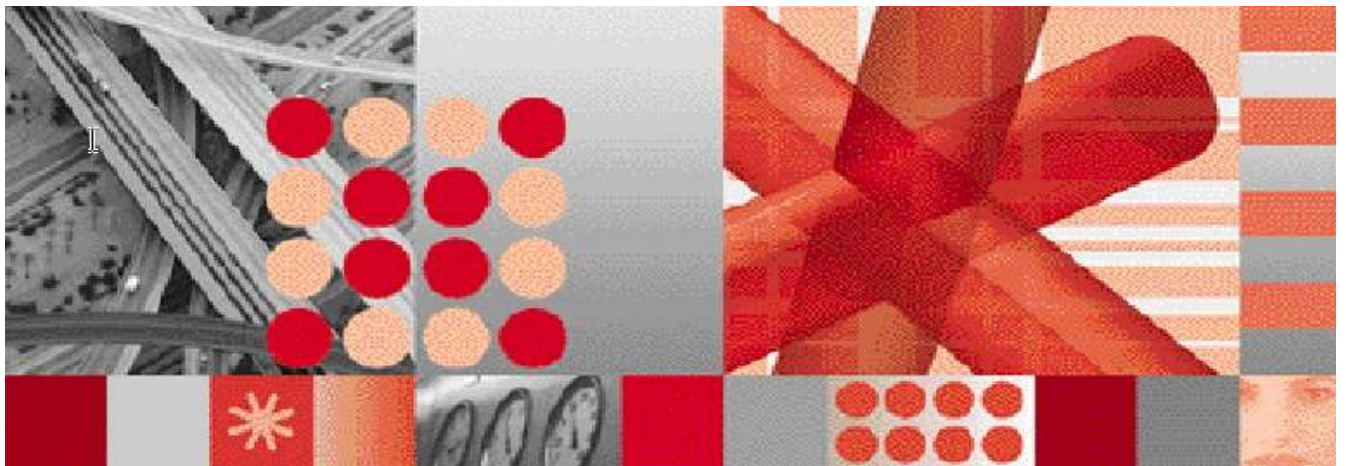




Netcool Service Quality Manager Module for HSPA PM Service



Version 1.1



Interface Control Guide

Note: Before using this information and the product it supports, read the information in Notices on page 101.

This edition applies to version 1, release 1, modification IF0001 of IBM Tivoli Netcool Service Quality Manager Module for HSPA PM Service (Product number 5724-V48) and to all subsequent releases and modifications until otherwise indicated in new editions.

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1 About this publication

The *IBM Tivoli Netcool Service Quality Manager Module for HSPA PM Service Interface Control Guide* details the IBM® Tivoli® Netcool® Service Quality Manager Module for HSPA PM Service input interface such as comma-separated value (CSV) input files in terms of:

- File-naming conventions and upload directory
- Data file format, granularity, and latency
- Supported delivery and collection mechanism and frequency
- Custom resource mapping

This guide also details the set of resources that must be provisioned, including the provisioning details that are specific to Tivoli Netcool Service Quality Manager Module for HSPA PM Service.

1.1 Intended audience

This publication is intended for parties who want to provide mediated data to the IBM® Tivoli® Netcool® Service Quality Manager Module for HSPA PM Service version 1.1.

Readers need to be familiar with the following topics:

- Telecommunication and IT principles
- IP networking
- Good understanding of UNIX® operating systems

1.2 What this publication contains

This publication contains the following chapters:

- Chapter 2 "Interface specifications"
Provides interface specifications and file-naming conventions.
- Chapter 3 "Enumerations and definitions"
Provides a description of call types.
- Chapter 4 "Service provisioning"

Provides a description of the steps you take to provision the customer-specific portions of a service module.

This publication contains the following appendices:

- **Appendix A "Provisioning"**
Provides a description of the provisioning system and resource types.
- **Appendix B "Data field types"**
Provides the data field types and their descriptions.
- **Appendix C "Product acronyms"**
Provides a description of product acronyms.

1.3 Publications

This section lists the following publications:

- IBM Tivoli Netcool Service Quality Manager core library
- IBM Tivoli Netcool Service Quality Manager Module for HSPA PM Service library

It also describes how to access Tivoli publications online and how to order Tivoli publications.

1.3.1 IBM Tivoli Netcool Service Quality Manager core library

The IBM Tivoli Netcool Service Quality Manager core library contains the following publications:

- *IBM Tivoli Netcool Service Quality Manager AIX Server Installation Guide, GC23-9847-00*
Describes how to install the Tivoli Netcool Service Quality Manager Server system on IBM AIX® systems.
- *IBM Tivoli Netcool Service Quality Manager Solaris Server Installation Guide, GC23-9846-00*
Describes how to install the Tivoli Netcool Service Quality Manager Server system on Solaris systems.
- *IBM Tivoli Netcool Service Quality Manager Client Installation Guide, GC23-9850-00*
Describes how to install the Tivoli Netcool Service Quality Manager client.
- *IBM Tivoli Netcool Service Quality Manager Upgrade Guide, SC23-9842-00*
Details how to upgrade from one Tivoli Netcool Service Quality Manager version to another.
- *IBM Tivoli Netcool Service Quality Manager AIX System Administration Guide, SC23-9845-00*
Provides an overview of the IBM AIX® Tivoli Netcool Service Quality Manager administrative tasks including instructions on how to complete the following tasks:
 - Starting and stopping the Tivoli Netcool Service Quality Manager product.
 - Running batch processes such as archiving trace files and log files.
 - Backing up and restoring the system.
- *IBM Tivoli Netcool Service Quality Manager Solaris System Administration Guide, SC23-9844-00*

Provides an overview of the Solaris Tivoli Netcool Service Quality Manager administrative tasks including instructions on how to complete the following tasks:

- Starting and stopping the Tivoli Netcool Service Quality Manager product.
- Running batch processes such as archiving trace files and log files.
- Backing up and restoring the system.

- *IBM Tivoli Netcool Service Quality Manager Provisioning Service SI Guide, SC23-9852-00*

Reference guide containing information for provisioning the Tivoli Netcool Service Quality Manager system.

- *IBM Tivoli Netcool Service Quality Manager Customer Experience Manager Provisioning Guide, SC23-9843-00*

Provides information for provisioning the Tivoli Netcool Customer Experience Manager system.

- *IBM Tivoli Netcool Service Quality Manager Customer Experience Manager Monitoring Guide, SC23-9482-00*

Describes how to use and monitor the Tivoli Netcool Customer Experience Manager feature in the Tivoli Netcool Service Quality Manager product.

- *IBM Tivoli Netcool Service Quality Manager Monitoring Guide, SC23-9103-01*

Describes monitoring (Service level agreement (SLA) monitor, Key quality indicator (KQI) analyzer, alarm monitor, audit manager, and SLA Webview applications) in the Tivoli Netcool Service Quality Manager product.

- *IBM Tivoli Netcool Service Quality Manager Configuration Guide, SC23-9102-01*

Describes SLA provisioning (parties, SLAs, and SLA templates applications). It also describes Tivoli Netcool Service Quality Manager provisioning (services resources, KQI models, and service models applications) in the Tivoli Netcool Service Quality Manager product.

- *IBM Tivoli Netcool Service Quality Manager BusinessObjects Installation and Configuration Guide, SC23-9473-00*

Provides information about the steps required to install and configure the BusinessObjects server and client for use with the Tivoli Netcool Service Quality Manager product.

- *IBM Tivoli Netcool Customer Experience Manager Customer Relationship Management Development Guide, SC23-9857-00*

Provides an overview of the Customer Relationship Management (CRM) proxy server and the CRM plug-in module. The CRM plug-in modules, developed using Java™ code, mediate between the Tivoli Netcool Customer Experience Management framework and an external CRM system.

- *IBM Tivoli Netcool Service Quality Manager Release Notes, G111-9221-00*

Provides information about the Tivoli Netcool Service Quality Manager release contents, platform requirements, installation and upgrade procedures, and known issues.

1.3.2 IBM Tivoli Netcool Service Quality Manager Module for HSPA PM Service library

- *IBM Tivoli Netcool Service Quality Manager Module for HSPA PM Service Installation Guide*

Provides the steps required to install the Tivoli Netcool Service Quality Manager Module for HSPA PM Service and its data sources.

- *IBM Tivoli Netcool Service Quality Manager Module for HSPA PM Service Overview Guide*

Provides an overview of the Tivoli Netcool Service Quality Manager Module for HSPA PM Service product architecture and its entities.

- *IBM Tivoli Netcool Service Quality Manager Module for HSPA PM Interface Control Guide*

Provides details of the Tivoli Netcool Service Quality Manager Module for HSPA PM Service input interface.

- *IBM Tivoli Netcool Service Quality Manager Module for HSPA PM Release Notes*

Provides information on the Tivoli Netcool Service Quality Manager Module for HSPA PM Service release contents, platform requirements, installation procedures, and known issues.

1.3.3 Accessing terminology online

The IBM Terminology Web site consolidates the terminology from IBM product libraries in one convenient location. You can access the Terminology Web site at: www.ibm.com/software/globalization/terminology.

1.3.4 Accessing publications online

The product CD contains the publications that are in the product library. The format of the publications is PDF.

IBM posts publications for Tivoli products, as they become available and whenever they are updated, to the Tivoli Documentation Central Web site at <http://www.ibm.com/tivoli/documentation>.

Note: If you print PDF documents on other than letter-sized paper, set the option in the **File -> Print** window that allows Adobe® Reader to print letter-sized pages on your local paper.

1.3.5 Ordering publications

You can order many Tivoli publications online at <http://www.ibm.com/e-business/linkweb/publications/servlet/pbi.wss>.

You can also order by telephone by calling one of these numbers:

- In the United States: 800-879-2755
- In Canada: 800-426-4968

In other countries, contact your software account representative to order Tivoli publications. To locate the telephone number of your local representative, perform the following steps:

1. Go to <http://www.ibm.com/e-business/linkweb/publications/servlet/pbi.wss>.
2. Select your country from the list and click **Go**.
3. Click **About this site** in the main panel to see an information page that includes the telephone number of your local representative.

1.4 Tivoli technical training

For Tivoli technical training information, refer to the following IBM Tivoli Education Web site at <http://www.ibm.com/software/tivoli/education>.

1.5 Tivoli user groups

Tivoli user groups are independent, user-run membership organizations that provide Tivoli users with information to assist them in the implementation of Tivoli Software solutions. Through these groups, members can share information and learn from the knowledge and experience of other Tivoli users. Tivoli user groups include the following members and groups:

- 23,000+ members
- 144+ groups

Access the link for the Tivoli Users Group at www.tivoli-ug.org.

1.6 Support information

If you have a problem with your IBM software, you want to resolve it quickly. IBM provides the following ways for you to obtain the support you need:

1.6.1 Online

Access the Tivoli Software Support site at <http://www.ibm.com/software/sysmgmt/products/support/index.html?ibmprd=tivmanok>.

Access the IBM Software Support site at <http://www.ibm.com/software/support/probsub.html>.

1.6.2 IBM Support Assistant

The IBM Support Assistant is a free local software serviceability workbench that helps you resolve questions and problems with IBM software products. The Support Assistant provides quick access to support-related information and serviceability tools for problem determination. To install the Support Assistant software, go to: <http://www.ibm.com/software/support/isa>

1.7 Conventions used in this guide

This publication uses several conventions for special terms and actions, operating system-dependent commands and paths, and margin graphics.

1.7.1 Typeface conventions

This publication uses the following typeface conventions:

Bold

- Lowercase commands and mixed case commands that are otherwise difficult to distinguish from surrounding text.
- Interface controls (check boxes, push buttons, radio buttons, spin buttons, fields, folders, icons, list boxes, items inside list boxes, multicolumn lists, containers, menu choices, menu names, tabs, property sheets), labels (such as **Tip:** and **Operating system considerations:**)
- Keywords and parameters in text.

Italics

- Citations (examples: titles of publications, diskettes, and CDs)
- Words defined in text (example: a non-switched line is called a *point-to-point line*)
- Emphasis of words and letters (words as words example: "Use the word *that* to introduce a restrictive clause."; letters as letters example: "The LUN address must start with the letter *L*.")
- New terms in text (except in a definition list): a *view* is a frame in a workspace that contains data.
- Variables and values you must provide (example: ...where *myname* represents...)

Monospace

- Examples and code examples.
- File names, programming keywords, and other elements that are difficult to distinguish from surrounding text.
- Message text and prompts addressed to the user.
- Text that the user must type.
- Values for arguments or command options.

1.7.2 Operating system-dependent variables and paths

This publication uses the UNIX convention for specifying environment variables and for directory notation. When using the Windows® command line, replace *\$variable* with *%variable%* for environment variables and replace each forward slash (/) with a backslash (\) in directory paths. The names of environment variables are not always the same in the Windows and UNIX environments. For example, %TEMP% in Windows environments is equivalent to \$TMPDIR in UNIX environments.

Note: If you are using the bash shell on a Windows system, you can use the UNIX conventions.

2 Interface specifications

This chapter details the interface specification between Tivoli Netcool Service Quality Manager and the mediation subsystem. Use this interface to collect raw data.

Table 1: Interface specifications summary

Service module version	1.1
Data type	American standard code for information interchange (ASCII) files; comma-separated values (CSVs); header row (or predefined field order); optionally compressed using the GZIP utility
	Map file
Collection method	Local directory
Transfer method	Defined by mediation
Mapping files in use? Y N	Yes
File name syntax	<p>A<startdate><starttime>-<enddate><endtime>_<UniqueID>_HSPA_<file_type>_pm.csv</p> <p>The timestamps on the file name are mandatory and identify the collection period. The format is YYYYMMDD.HHMMshmm where:</p> <p><startdate> and <enddate>:</p> <ul style="list-style-type: none"> • YYYY is the year in four-digit notation • MM is the month in two digit notation (01 - 12) • DD is the day in two-digit notation (01 - 31) <p><starttime> and <endtime>:</p> <ul style="list-style-type: none"> • HH is the two-digit hour of the day (local time), based on 24-hour clock (00 - 23) • MM is the two-digit minute of the hour (local time) • s (optional) is the sign of the local time differential from Coordinated Universal Time (UTC) (+ or -), in case the time differential to UTC is 0 then the sign can be arbitrarily set to "+" or "-" • hh (optional) is the two-digit number of hours of the local time differential from UTC (00-23) • mm (optional) is the two-digit number of minutes of the local time differential

	<p>from UTC (00-59)</p> <ul style="list-style-type: none"> file_type is Cell, Radio Network Controller (RNC), Node B, Serving GPRS Support Node (SGSN) or Gateway GPRS Support Node (GGSN) <p>The Optional part of the naming is used to uniquely identify attributes such as: There are 5 CSV every 30 minutes</p> <pre> A<YYYYMMDD>.<hhmm>- <YYYYMMDD>.<hhmm>[_<UniqueID>]_HSPA_Cell_pm.csv A<YYYYMMDD>.<hhmm>- <YYYYMMDD>.<hhmm>[_<UniqueID>]_HSPA_RNC_pm.csv A<YYYYMMDD>.<hhmm>- <YYYYMMDD>.<hhmm>[_<UniqueID>]_HSPA_NodeB_pm.csv A<YYYYMMDD>.<hhmm>- <YYYYMMDD>.<hhmm>[_<UniqueID>]_HSPA_SGSN_pm.csv A<YYYYMMDD>.<hhmm>- <YYYYMMDD>.<hhmm>[_<UniqueID>]_HSPA_GGSN_pm.csv </pre> <p>File name examples:</p> <pre> A20050907.1030+0000-20050907.1100+0000_HSPA_Cell_pm.csv A20050907.1030-20050907.1100_HSPA_RNC_pm.csv A20050907.1030-20050907.1100_HSPA_NodeB_pm.csv A20050907.1030-20050907.1100_HSPA_SGSN_pm.csv A20050907.1030-20050907.1100_HSPA_GGSN_pm.csv </pre> <p>Description: The start of the first granularity period 07 September 2005, 10:30 local, end of last granularity period 07 September 2005, 11:00 local, with a time differential of 0 against UTC.</p>
--	--

2.1 Data collection and transfer mechanisms

This section defines how, how often, and from where the Tivoli Netcool Service Quality Manager adapter collects input data for processing. It also defines how the data files are transferred from the mediation subsystem to the Tivoli Netcool Service Quality Manager adapter.

Table 2: Data collection and transfer mechanisms

Collection method	Local directory
Collection point (default data directory¹)	There are 3 directories used for this service module: GGSN Files:

¹ Default data directory, configured in the Tivoli Netcool Service Quality Manager adapter.

	<code>\${SAVARDIR}/adapter/sqm_hspa_ggsn_pm_loader/</code> SGSN Files: <code>\${SAVARDIR}/adapter/sqm_hspa_sgsn_pm_loader/</code> UTRAN Files (UTRAN Cell, RNC, and Node B files): <code>\${SAVARDIR}/adapter/sqm_hspa_utran_pm_loader/</code>
Collection frequency	30 minutes
Distribution method	Data push
Distribution frequency²	30 minutes
Max delivery latency³	60 minutes
Compression	Files can be compressed using the gzip (GNU zip) utility.

Data files are collected by the Tivoli Netcool Service Quality Manager adapter or delivered by the mediation. Transfer protocols such as FTP, SFTP, SCP, UUCP, and local copy are most often used to transfer data. The transfer protocol is defined by the mediation capabilities or agreed on between the Tivoli Netcool Service Quality Manager customer and the party providing the mediation.

Where the collection mechanism is *Local directory*, the mediation must deliver the data files to the defined *Collection point* directory. This transfer or distribution mechanism is referred to as *data push*, where data is pushed to the adapters.

The default value for the root data directory (`${SAVARDIR}`) is `/appl/sa/var`.

2.2 Data compression

The interface supports data files compressed by the gzip utility. In such cases, the files without time zone offset are similar to the following format:

In every 30 minutes granularity period, there are 5 CSV files pushed to the relevant `HSPA_pm` directory as defined in Table 2. When the five files are compressed using `gz` one set of files consist of one of each Cell, Node B, RNC, SGSN, and GGSN. GGSN files look as follows:

```
20050907.1030-20050907.1100_HSPA_GGSN_1.gz
```

Such compression is used in deployments to reduce network bandwidth, improve link latency, and so on. However data compression can increase both disk input and output and CPU load.

The interface also support archive files such as archives that contain multiple CSV files.

² The distribution frequency indicates how often the mediation component should provide input data to the adapter process. This value is often identical to the collection frequency.

³ Max latency, configured in the Tivoli Netcool Customer Experience Manager adapter known as *Grace Period*. Data files that arrive past this time are not processed. Typically, by default it is configured to be two times the collection interval. Max latency is configured in the `sqm_hspa_pm` loader properties files found at `/appl/sa/conf/adapter/collector`.

The following files are not currently supported:

- Tar files, or files that include the `.tar` file name extension.
- Tar files that are compressed with the `gzip` utility. These files include the `tar.gz` or `.tgz` file name extension.
- UNIX compressed files that include the `.z` file name extension.
- Compressed files that include the `.zip` file name extension.

2.3 Data specification

This section defines the content format of the data files. There are five CSV files in each 30 minutes granularity period

2.3.1 PM Data File CSV format

There are 5 CSV files.

The following tables show 5 CSV data files. These data files are for RNC, Cell, Node B, SGSN, and GGSN.

Table 3: RNC data file metric format

Field name	Type	Maximum length	Constraints	Field description	Notes
MSC	Varchar	64	Text String (64 characters)	MSC Identifier, which is the parent MSC for the current cell.	Nullable
RNC	Varchar	64	Text String (64 characters)	The name of the current RNC, which is the parent RNC for the current cell.	not null - the RNC name is filled in by mediation
RNC_Address	Varchar	128	string (up to 128 characters)	The address of the current RNC	Nullable - text string (up to 128 characters) ,
SOURCE_VENDOR	ENUM		0 - Ericsson 1 - Alcatel Lucent 2 - Nortel 3 - Nokia 4 - Huawei 5- Motorola	The equipment supplier whose systems supplied the metrics provided in this vendor-independent data file.	Nullable - this field is useful for troubleshooting, for example, determining which vendors are not supplying the expected counters. It can also be used to support vendor-specific metrics.
VENDOR_VERSION	Varchar	64	Text string (64 characters) Vendor-Specific	The version of the interface of equipment supplier whose systems supplied the metrics provided in this vendor-	Nullable - this field is useful when understanding how the vendor-neutral field is

Field name	Type	Maximum length	Constraints	Field description	Notes
			Version Number,	independent data file, for example, R10.	computed. Different (version-specific) underlying v peg counts may have been used in the computation of the same KPI metric.
Region	Varchar	64	Text String (64 characters)	Region identifier for the RNC instance	Nullable
UMTS_OperaDowntime_RNC	Long		Nullable, but ≥ 0 if present.	<p>UMTS operational downtime is a measure of the unavailability of UMTS service in a RNC in this measurement period due to unplanned downtime.</p> <p>UMTS operational downtime is the time (seconds) during this measurement period in which UMTS service in the RNC is unavailable due to unplanned (for example malfunction) downtime.</p>	
UMTS_AdminDowntime_RNC	Long		Nullable, but ≥ 0 if present.	<p>UMTS Administrative downtime is a measure of the unavailability of UMTS service in a RNC in this measurement period due to administrative downtime. A RNC is administratively locked by a system administrator and is usually for planned maintenance (though it occasionally occurs due to system administrator error)</p> <p>UMTS administrative downtime is the time (in seconds) during this measurement period in which UMTS service in the RNC is unavailable due to planned administrative downtime.</p>	
Mean_Jitter_to_RNC	Long		Nullable, but ≥ 0 if present.	Mean jitter of detected packet to RNC	
Mean_Delay_to_RNC	Long		Nullable, but ≥ 0 if present.	Mean delay of detected packet to RNC	
UMTS_Operational_RNC_Flag	Integer		Not nullable. 0 or 1.	This is a boolean flag indicating whether the RNC is	

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Field name	Type	Maximum length	Constraints	Field description	Notes
				operational (value = 1) or not (value = 0)	
DL_user_data_volume	Long		Nullable, but ≥ 0 if present.	Downlink data volume (excluding retransmissions) in kilobits (kb).	
DL_user_data_transmit_time	Long		Nullable, but ≥ 0 if present.	The time in seconds that data was being actively transmitted downlink.	
UL_user_data_volume	Long		Nullable, but ≥ 0 if present.	Uplink data volume (excluding retransmissions) in kilobits (kb)	
UL_user_data_transmit_time	Long		Nullable, but ≥ 0 if present.	The time in seconds that data was being actively transmitted uplink.	
sysuptime	Long		Nullable, but ≥ 0 if present.	The time since the Node was last reinitialised.	
CpuUsage_Max	Long		Nullable, but ≥ 0 if present.	Maximum CPU usage per Node	
MemUsage_Max	Long		Nullable, but ≥ 0 if present.	Maximum memory usage per Node	
CpuUsage_Average	Long		Nullable, but ≥ 0 if present.	Average CPU usage per node	
MemUsage_Average	Long		Nullable, but ≥ 0 if present.	Average memory usage per Node	
UL_Traff_Kbps_lu_UserPlane_CS	Long		Nullable, but ≥ 0 if present.	Uplink traffic bandwidth (Kbps) of lu user plane for CS domain in RNC	
DL_Traff_Kbps_lu_UserPlane_CS	Long		Nullable, but ≥ 0 if present.	Downlink traffic bandwidth (Kbps) of lu user plane for CS domain in RNC	
UL_Traff_Kbps_lu_UserPlane_PS	Long		Nullable, but ≥ 0 if present.	Uplink traffic bandwidth (Kbps) of lu user plane for PS domain in RNC	
DL_Traff_Kbps_lu_UserPlane_PS	Long		Nullable, but ≥ 0	Downlink traffic bandwidth	

Field name	Type	Maximum length	Constraints	Field description	Notes
			if present.	(Kbps) of lu user plane for PS domain in RNC	
lu_UL_Traffic_Kbps	Long		Nullable, but ≥ 0 if present.	Uplink traffic bandwidth (Kbps) of lu in RNC	
lu_DL_Traffic_Kbps	Long		Nullable, but ≥ 0 if present.	Downlink traffic bandwidth (Kbps) of lu in RNC	
RNC_UL_Traffic_Kbps_PS	Long		Nullable, but ≥ 0 if present.	Uplink traffic bandwidth (Kbps) for PS calls in RNC	
RNC_DL_Traffic_Kbps_PS	Long		Nullable, but ≥ 0 if present.	Downlink traffic bandwidth (Kbps) for PS calls in RNC.	
lub_DL_Traffic_Kbps	Long		Nullable, but ≥ 0 if present.	Uplink traffic bandwidth (Kbps) of lub in RNC	
lub_UL_Traffic_Kbps	Long		Nullable, but ≥ 0 if present.	Downlink traffic bandwidth (Kbps) of lub in RNC	
lur_DL_Traffic_Kbps	Long		Nullable, but ≥ 0 if present.	Sum of DL payload traffic for lur user plane and DL overhead traffic for lur user plane	
lur_UL_Traffic_Kbps	Long		Nullable, but ≥ 0 if present.	Sum of UL payload traffic for lur user plane and UL overhead traffic for lur user plane	
UI_payload_overhead_Kbps_CS	Long		Nullable, but ≥ 0 if present.	UL payload traffic for CS calls + UL overhead traffic for CS calls	
Provided_UL_bndwidth_Kbps_CS	Long		Nullable, but ≥ 0 if present.	Provided UL bandwidth (Kbps) for CS traffic	
DI_payload_overhead_Kbps_CS	Long		Nullable, but ≥ 0 if present.	DL payload traffic bandwidth (Kbps) for CS calls + DL overhead traffic for CS calls	
Provided_DL_bndwidth_Kbps_CS	Long		Nullable, but ≥ 0 if present.	Provided DL bandwidth (Kbps) for CS traffic	
UI_payload_overhead_Kbps_luPS	Long		Nullable, but ≥ 0	UL payload traffic bandwidth	

Field name	Type	Maximum length	Constraints	Field description	Notes
			if present.	(Kbps) for IuPS calls + UL overhead traffic bandwidth (Kbps) for IuPS calls	
Provided_UL_bndwidth_Kbps_IuPS	Long		Nullable, but ≥ 0 if present.	Provided UL bandwidth (Kbps) for PS traffic	
DL_payload_overhead_Kbps_IuPS	Long		Nullable, but ≥ 0 if present.	DL payload traffic bandwidth (Kbps) for IuPS calls + DL overhead traffic bandwidth (Kbps) for IuPS calls	
Provided_DL_bndwidth_Kbps_IuPS	Long		Nullable, but ≥ 0 if present.	Provided UL bandwidth (Kbps) for PS traffic	
Provided_UL_bndwidth_Kbps_Iur	Long		Nullable, but ≥ 0 if present.	Provided UL bandwidth (Kbps) for Iur user plane traffic	
Provided_DL_bndwidth_Kbps_Iur	Long		Nullable, but ≥ 0 if present.	Provided DL bandwidth (Kbps) for Iur user plane traffic	
Total_Port_BW_Kbps_Used	Long		Nullable, but ≥ 0 if present.	Total data bandwidth (Kbps) from all ports incoming and outgoing used	
Total_Port_Data_Kbps_Available	Long		Nullable, but ≥ 0 if present.	Total data bandwidth (Kbps) from all ports incoming and outgoing available	

Example RNC file:

```

MSC,RNC,RNC_Address,SOURCE_VENDOR,VENDOR_VERSION,Region,UMTS_Operational_RNC,UMTS_Ad
minDowntime_RNC,Mean_Jitter_to_RNC,Mean_Delay_to_RNC,UMTS_Operational_RNC_Flag,DL_user
_data_volume,DL_user_data_transmit_time,UL_user_data_volume,UL_user_data_transmit_time
,sysuptime,CpuUsage_Max,MemUsage_Max,CpuUsage_Average,MemUsage_Average,UL_Traffic_Kbps_I
u_UserPlane_CS,DL_Traffic_Kbps_Iu_UserPlane_CS,UL_Traffic_Kbps_Iu_UserPlane_PS,DL_Traffic_Kb
ps_Iu_UserPlane_PS,Iu_UL_Traffic_Kbps,Iu_DL_Traffic_Kbps,RNC_UL_Traffic_Kbps_PS,RNC_DL
_Traffic_Kbps_PS,Iub_DL_Traffic_Kbps,Iub_UL_Traffic_Kbps,Iur_DL_Traffic_Kbps,Iur_UL_Tr
affic_Kbps,UL_payload_overhead_Kbps_CS,Provided_UL_bndwidth_Kbps_CS
,DL_payload_overhead_Kbps_CS,Provided_DL_bndwidth_Kbps_CS
,UL_payload_overhead_Kbps_IuPS,Provided_UL_bndwidth_Kbps_IuPS
,DL_payload_overhead_Kbps_IuPS,Provided_DL_bndwidth_Kbps_IuPS,Provided_UL_bndwidth_Kbps_
Iur,Provided_DL_bndwidth_Kbps_Iur>Total_Port_BW_Kbps_Used>Total_Port_Data_Kbps_Availabl
e

MSC1,RNC1,192.168.1.2,0,RNC10.12,North-
Est,0,1,1,0,1,179112377,148,225581088,336,1800,62,83,69,54,17177477,81499738,65775110,
118062720,106492473,55301646,119846557,307867845,42416065,106492473,55301646,12714826,
88167463,550000000,340524781,550000000,37438406,200000000,91766037,550000000,100000000
,100000000,310071410,550000000

```

Table 4: UTRAN CSV data file

Field name	Type	Maximum length	Constraints	Field description	Notes
CellName	Varchar	64	Nullable - text string (64 characters)	Cell Name Cell Identifier	Nullable
CGI	Varchar		Non-nullable; MCC = 3 decimal digits MNC = 2 or 3 decimal digits LAC = 2 hexadecimal encoded octets CI = 2 hexadecimal encoded octets LAC values 0000 and FFFE are reserved.	The cell global identity for the current cell, logically consisting of MNC - Mobile Network Code MCC - Mobile Country Code LAC - Location Area Code CI - Cell identity The format of the CGI field is CCCNNNLLLLIIII where: CCC is the mobile country code (3 decimal digits). NNN is the mobile network code (2 or 3 decimal digits). LLLL is the location area code (4 hexadecimal digits) IIII is the cell identifier (4 hexadecimal digits)	not null
MSC	Varchar	64	Nullable; -ext string (64 characters)	MSC Identifier, which is the parent MSC for the current cell.	Nullable
NodeB	Varchar	64	Non-nullable; text string (64 characters)	The name of the current Node B, which is the parent Node B for the current cell.	The Node B is filled in by mediation.
NodeB_Address	Varchar	64	Nullable; text string (64 characters)	Node B address	
SOURCE_VENDOR	Enum		0 - Ericsson 1 - Alcatel Lucent 2 - Nortel 3 - Nokia 4 - Huawei 5- Motorola	The equipment supplier whose systems supplied the metrics provided in this vendor-independent data file.	Nullable - This field is useful for troubleshooting, for example determining which vendors are not supplying the expected counters. It can also be used to support vendor-

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Field name	Type	Maximum length	Constraints	Field description	Notes
					specific metrics.
VENDOR_VERSION	Varchar	64	Nullable; text string (64 characters) Vendor-Specific Version Number,	The version of the interface of the equipment supplier whose systems supplied the metrics provided in this vendor-independent data file, for example R10	This field is useful when understanding how the vendor-neutral field was computed. Different (version-specific) underlying v peg counts may have been used in the computation of the same KPI metric.
DCH_DL_RAB_Throughput	Long		Nullable, but ≥ 0 if present	Average DL DCH RAB throughput is SUM of the DL data volume on DCH over measurement period (s)	
DCH_UL_RAB_Throughput	Long		Nullable, but ≥ 0 if present	Average UL DCH RAB throughput is SUM of the UL data volume on DCH over measurement periods.	
EUL_UL_RLC_thp_0..25	Long		Nullable, but ≥ 0 if present	The EUL UL RLC throughput (user data), excluding retransmissions. Reported on the best cell in the active set. 0 - 25 kbps	
EUL_UL_RLC_thp_25..50	Long		Nullable, but ≥ 0 if present	The EUL UL RLC throughput (user data), excluding retransmissions. Reported on the best cell in the active set. 25 - 50 kbps	
EUL_UL_RLC_thp_50..100	Long		Nullable, but ≥ 0 if present	The EUL UL RLC throughput (user data), excluding retransmissions. Reported on the best cell in the active set. 50 - 100 kbps	
EUL_UL_RLC_thp_100..200	Long		Nullable, but ≥ 0 if present	The EUL UL RLC throughput (user data), excluding retransmissions. Reported on the	

Field name	Type	Maximum length	Constraints	Field description	Notes
				best cell in the active set. 100 - 200 kbps	
EUL_UL_RLC_thp_200..300	Long		Nullable, but ≥ 0 if present	The EUL UL RLC throughput (user data), excluding retransmissions. Reported on the best cell in the active set. 200 – 300 kbps	
EUL_UL_RLC_thp_300..400	Long		Nullable, but ≥ 0 if present	The EUL UL RLC throughput (user data), excluding retransmissions. Reported on the best cell in the active set. 300 - 400 kbps	
EUL_UL_RLC_thp_400..500	Long		Nullable, but ≥ 0 if present	The EUL UL RLC throughput (user data), excluding retransmissions. Reported on the best cell in the active set. 400 - 500 kbps	
EUL_UL_RLC_thp_500..600	Long		Nullable, but ≥ 0 if present	The EUL UL RLC throughput (user data), excluding retransmissions. Reported on the best cell in the active set. 500 - 600 kbps	
EUL_UL_RLC_thp_600..700	Long		Nullable, but ≥ 0 if present	The EUL UL RLC throughput (user data), excluding retransmissions. Reported on the best cell in the active set. 600 - 700 kbps	
EUL_UL_RLC_thp_700..800	Long		Nullable, but ≥ 0 if present	The EUL UL RLC throughput (user data), excluding retransmissions. Reported on the best cell in the active set. 700 - 800 kbps	
EUL_UL_RLC_thp_800..900	Long		Nullable, but ≥ 0 if present	The EUL UL RLC throughput (user data), excluding retransmissions. Reported on the	

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Field name	Type	Maximum length	Constraints	Field description	Notes
				best cell in the active set. 800 - 900 kbps	
EUL_UL_RLC_thp_900..1000	Long		Nullable, but ≥ 0 if present	The EUL UL RLC throughput (user data), excluding retransmissions. Reported on the best cell in the active set. 900 - 1000 kbps	
EUL_UL_RLC_thp_1000..1100	Long		Nullable, but ≥ 0 if present	The EUL UL RLC throughput (user data), excluding retransmissions. Reported on the best cell in the active set. 1000 - 1100 kbps	
EUL_UL_RLC_thp_1100..1200	Long		Nullable, but ≥ 0 if present	The EUL UL RLC throughput (user data), excluding retransmissions. Reported on the best cell in the active set. 1100 - 1200 kbps	
EUL_UL_RLC_thp_1200..1400	Long		Nullable, but ≥ 0 if present	The EUL UL RLC throughput (user data), excluding retransmissions. Reported on the best cell in the active set. 1200 - 1400 kbps	
EUL_UL_RLC_thp_1400..1600	Long		Nullable, but ≥ 0 if present	The EUL UL RLC throughput (user data), excluding retransmissions. Reported on the best cell in the active set. 1400 - 1600 kbps	
EUL_UL_RLC_thp_1600..1800	Long		Nullable, but ≥ 0 if present	The EUL UL RLC throughput (user data), excluding retransmissions. Reported on the best cell in the active set. 1600 - 1800 kbps	
EUL_UL_RLC_thp_1800..2000	Long		Nullable, but ≥ 0 if present	The EUL UL RLC throughput (user data), excluding retransmissions. Reported on the	

Field name	Type	Maximum length	Constraints	Field description	Notes
				best cell in the active set. 1800 - 2000 kbps	
EUL_UL_RLC_thp_2000..2500	Long		Nullable, but ≥ 0 if present	The EUL UL RLC throughput (user data), excluding retransmissions. Reported on the best cell in the active set. 2000 - 2500 kbps	
EUL_UL_RLC_thp_2500..3000	Long		Nullable, but ≥ 0 if present	The EUL UL RLC throughput (user data), excluding retransmissions. Reported on the best cell in the active set. 2500 - 3000 kbps	
EUL_UL_RLC_thp_3000..3500	Long		Nullable, but ≥ 0 if present	The EUL UL RLC throughput (user data), excluding retransmissions. Reported on the best cell in the active set. 3000 - 3500 kbps	
EUL_UL_RLC_thp_3500..4000	Long		Nullable, but ≥ 0 if present	The EUL UL RLC throughput (user data), excluding retransmissions. Reported on the best cell in the active set. 3500 - 4000 kbps	
EUL_UL_RLC_thp_4000..4500	Long		Nullable, but ≥ 0 if present	The EUL UL RLC throughput (user data), excluding retransmissions. Reported on the best cell in the active set. 4000 - 4500 kbps	
EUL_UL_RLC_thp_4500..5000	Long		Nullable, but ≥ 0 if present	The EUL UL RLC throughput (user data), excluding retransmissions. Reported on the best cell in the active set. 4500 - 5000 kbps	
EUL_UL_RLC_thp_5000..6000	Long		Nullable, but ≥ 0 if present	The EUL UL RLC throughput (user data), excluding retransmissions. Reported on the	

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Field name	Type	Maximum length	Constraints	Field description	Notes
				best cell in the active set. 5000 - 6000 kbps	
EUL_UL_RLC_thp_above_6000	Long		Nullable, but ≥ 0 if present	The EUL UL RLC throughput (user data), excluding retransmissions. Reported on the best cell in the active set. >6000 kbps	
Failed_interRAT_PS_Incoming_handover_2G_3G	Long		Nullable, but ≥ 0 if present	The number of failed inter-RAT PS incoming handover 2G to 3G	
Failed_interRAT_PS_Outgoing_handover_3G_2G	Long		Nullable, but ≥ 0 if present	The number of failed inter-RAT PS outgoing handover 3G to 2G	
Failed_interRAT_EDCH_handover_3G_2G	Long		Nullable, but ≥ 0 if present	The number of failed inter-RAT E-DCH handover (3G->2G)	
Failed_interRAT_EDCH_handover_2G_3G	Long		Nullable, but ≥ 0 if present	The number of failed inter-RAT E-DCH handover (2G->3G)	
HSDPA_Radio_Block_Error_Rate	Long		Nullable, but ≥ 0 if present	HSDPA radio block error rate (BLER)	
HSDPA_Active_Concurrent_Users	Integer		Nullable, but ≥ 0 if present	Number of HSDPA active concurrent user	
HSDPA_AdministrativeDowntime	Integer		Nullable, but ≥ 0 if present	HSDPA administrative downtime is a measure of the unavailability of HSDPA service in a CELL in this measurement period due to administrative downtime. A Cell is administratively locked by a system administrator and is usually for planned maintenance (though it occasionally occurs due to system administrator error) HSDPA administrative downtime is the	

Field name	Type	Maximum length	Constraints	Field description	Notes
				time (in seconds) during this measurement period in which HSDPA service in the CELL is unavailable due to planned administrative downtime.	
HSDPA_Att_RAB_Setup	Long		Nullable, but ≥ 0 if present	Number of the HSDPA RAB establish attempts	
HSDPA_Att_RRC	Long		Nullable, but ≥ 0 if present	Number of the HSDPA RRC establish attempts	
HSDPA_ATT_RAB_Estab_BE_Bronze	Long		Nullable, but ≥ 0 if present	Number of the HSDPA RAB establish attempts of BE service for Bronze level user	
HSDPA_ATT_RAB_Estab_BE_Gold	Long		Nullable, but ≥ 0 if present	Number of the HSDPA RAB establish attempts of BE service for Gold level user	
HSDPA_ATT_RAB_Estab_BE_Silver	Long		Nullable, but ≥ 0 if present	Number of the HSDPA RAB establish attempts of BE service for Silver level user	
HSDPA_AttHSBearerRel_Normal	Long		Nullable, but ≥ 0 if present	The number of HS downlink bearer release attempts for normal reasons.	
HSDPA_AttHSBearerRel_NwFailure	Long		Nullable, but ≥ 0 if present	The number of HS downlink bearer release attempts due to failures in either network equipment or procedures.	
HSDPA_AttHSBearerRel_OtherFailure	Long		Nullable, but ≥ 0 if present	The number of HS downlink bearer release attempts for any other reason.	
HSDPA_AttHSBearerRel_Preemption	Long		Nullable, but ≥ 0 if present	The number of HS downlink bearer release attempts due to pre-emption.	
HSDPA_AttHSBearerSetup	Long		Nullable, but ≥ 0 if present	The number of HS downlink bearer setup attempts.	

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Field name	Type	Maximum length	Constraints	Field description	Notes
HSDPA_DLUserDataTransmitTime	Integer		Nullable, but ≥ 0 if present	The time that data was being actively transmitted downlink for HSDPA data sessions.	
HSDPA_DLUserDataVolume	Integer		Nullable, but ≥ 0 if present	The HSDPA downlink data volume (excluding retransmissions)	
HSDPA_Estab_MaxTime	Long		Nullable, but ≥ 0 if present	Maximum delay of successful HSDPA service establishment in the best cell	
HSDPA_FailHSBearerSetup_NwCapacity	Long		Nullable, but ≥ 0 if present	The number of HS downlink bearer setup attempts that failed due to network capacity problems (for example, congestion).	
HSDPA_FailHSBearerSetup_NwFailure	Long		Nullable, but ≥ 0 if present	The number of HS downlink bearer setup attempts that failed due to failures in either network equipment or procedures.	
HSDPA_FailHSBearerSetup_UE	Long		Nullable, but ≥ 0 if present	The number of HS downlink bearer setup attempts that failed due to user equipment problems.	
HSDPA_Mean_Ch_Throughput	Long		Nullable, but ≥ 0 if present	Mean downlink throughput per MAC-D flow	
HSDPA_MeanBronzeBeChThroughput	Long		Nullable, but ≥ 0 if present	Mean throughput per bronze BE MAC-D flow	
HSDPA_MeanGoldBeChThroughput	Long		Nullable, but ≥ 0 if present	Mean throughput per gold BE MAC-D flow	
HSDPA_MeanSilverBeChThroughput	Long		Nullable, but ≥ 0 if present	Mean throughput per silver BE MAC-D flow	
HSDPA_Operational_Cells	Integer		Nullable, but ≥ 0 if present	HSDPA Number of Operational Cells, number 1 if the cell is operational	
HSDPA_OperationalDowntime	Integer		Nullable, but \geq	HSDPA operational	

Field name	Type	Maximum length	Constraints	Field description	Notes
			0 if present	downtime is a measure of the unavailability of HSDPA service in a CELL in this measurement period due to unplanned downtime. HSDPA operational downtime is the time (in seconds) during this measurement period in which HSDPA service in the CELL is unavailable due to unplanned (for example, malfunction) downtime.	
HSDPA_Succ_RAB_Estab_BE_Bronze	Long		Nullable, but ≥ 0 if present	Number of the successful HSDPA RAB establish attempts of BE service for Bronze level user	
HSDPA_Succ_RAB_Estab_BE_Gold	Long		Nullable, but ≥ 0 if present	Number of successful HSDPA RAB establishments of BE service for Gold level user	
HSDPA_Succ_RAB_Estab_BE_Silver	Long		Nullable, but ≥ 0 if present	Number of the successful HSDPA RAB establish attempts of BE service for Silver level user	
HSDPA_Succ_RAB_Setup	Long		Nullable, but ≥ 0 if present	Number of the HSDPA RAB Success establish	
HSDPA_Succ_RRC	Long		Nullable, but ≥ 0 if present	Number of the HSDPA RRC Success establish	
HSDPA_SuccHS_DL_BearerSetup	Long		Nullable, but ≥ 0 if present	The number of successful HS downlink bearer setup attempts.	
HSDPA_Total_Cells	Integer		Nullable, but ≥ 0 if present	Total number of HSDPA Total Cells operational and non-operational Cells	

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Field name	Type	Maximum length	Constraints	Field description	Notes
HSDSCH_DL_RLC_thp_0..25	Long		Nullable, but ≥ 0 if present	The HS-DSCH DL RLC throughput (user data), excluding retransmissions. Reported on the HS-DSCH cell. 0 - 25 kbps	
HSDSCH_DL_RLC_thp_25..50	Long		Nullable, but ≥ 0 if present	The HS-DSCH DL RLC throughput (user data), excluding retransmissions. Reported on the HS-DSCH cell. 25 - 50 kbps	
HSDSCH_DL_RLC_thp_50..100	Long		Nullable, but ≥ 0 if present	The HS-DSCH DL RLC throughput (user data), excluding retransmissions. Reported on the HS-DSCH cell. 50 - 100 kbps	
HSDSCH_DL_RLC_thp_100..200	Long		Nullable, but ≥ 0 if present	The HS-DSCH DL RLC throughput (user data), excluding retransmissions. Reported on the HS-DSCH cell. 100 - 200 kbps	
HSDSCH_DL_RLC_thp_200..300	Long		Nullable, but ≥ 0 if present	The HS-DSCH DL RLC throughput (user data), excluding retransmissions. Reported on the HS-DSCH cell. 200 - 300 kbps	
HSDSCH_DL_RLC_thp_300..400	Long		Nullable, but ≥ 0 if present	The HS-DSCH DL RLC throughput (user data), excluding retransmissions. Reported on the HS-DSCH cell. 300 - 400 kbps	
HSDSCH_DL_RLC_thp_400..500	Long		Nullable, but ≥ 0 if present	The HS-DSCH DL RLC throughput (user data), excluding retransmissions. Reported on the HS-DSCH cell. 400 - 500 kbps	

Field name	Type	Maximum length	Constraints	Field description	Notes
HSDSCH_DL_RLC_thp_500..600	Long		Nullable, but ≥ 0 if present	The HS-DSCH DL RLC throughput (user data), excluding retransmissions. Reported on the HS-DSCH cell. 500 - 600 kbps	
HSDSCH_DL_RLC_thp_600..700	Long		Nullable, but ≥ 0 if present	The HS-DSCH DL RLC throughput (user data), excluding retransmissions. Reported on the HS-DSCH cell. 600 - 700 kbps	
HSDSCH_DL_RLC_thp_700..800	Long		Nullable, but ≥ 0 if present	The HS-DSCH DL RLC throughput (user data), excluding retransmissions. Reported on the HS-DSCH cell. 700 - 800 kbps	
HSDSCH_DL_RLC_thp_800..900	Long		Nullable, but ≥ 0 if present	The HS-DSCH DL RLC throughput (user data), excluding retransmissions. Reported on the HS-DSCH cell. 800 - 900 kbps	
HSDSCH_DL_RLC_thp_900..1000	Long		Nullable, but ≥ 0 if present	The HS-DSCH DL RLC throughput (user data), excluding retransmissions. Reported on the HS-DSCH cell. 900 - 1000 kbps	
HSDSCH_DL_RLC_thp_1000..1100	Long		Nullable, but ≥ 0 if present	The HS-DSCH DL RLC throughput (user data), excluding retransmissions. Reported on the HS-DSCH cell. 1000 - 1100 kbps	
HSDSCH_DL_RLC_thp_1100..1200	Long		Nullable, but ≥ 0 if present	The HS-DSCH DL RLC throughput (user data), excluding retransmissions. Reported on the HS-DSCH cell. 1100 - 1200 kbps	

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Field name	Type	Maximum length	Constraints	Field description	Notes
HSDSCH_DL_RLC_thp_1200..1400	Long		Nullable, but ≥ 0 if present	The HS-DSCH DL RLC throughput (user data), excluding retransmissions. Reported on the HS-DSCH cell. 1200 - 1400 kbps	
HSDSCH_DL_RLC_thp_1400..1600	Long		Nullable, but ≥ 0 if present	The HS-DSCH DL RLC throughput (user data), excluding retransmissions. Reported on the HS-DSCH cell. 1400 - 1600 kbps	
HSDSCH_DL_RLC_thp_1600..1800	Long		Nullable, but ≥ 0 if present	The HS-DSCH DL RLC throughput (user data), excluding retransmissions. Reported on the HS-DSCH cell. 1600 - 1800 kbps	
HSDSCH_DL_RLC_thp_1800..2000	Long		Nullable, but ≥ 0 if present	The HS-DSCH DL RLC throughput (user data), excluding retransmissions. Reported on the HS-DSCH cell. 1800 - 2000 kbps	
HSDSCH_DL_RLC_thp_2000..2500	Long		Nullable, but ≥ 0 if present	The HS-DSCH DL RLC throughput (user data), excluding retransmissions. Reported on the HS-DSCH cell. 2000 - 2500 kbps	
HSDSCH_DL_RLC_thp_2500..3000	Long		Nullable, but ≥ 0 if present	The HS-DSCH DL RLC throughput (user data), excluding retransmissions. Reported on the HS-DSCH cell. 2500..3000 kbps	
HSDSCH_DL_RLC_thp_3000..3500	Long		Nullable, but ≥ 0 if present	The HS-DSCH DL RLC throughput (user data), excluding retransmissions. Reported on the HS-DSCH cell. 3000 - 3500 kbps	

Field name	Type	Maximum length	Constraints	Field description	Notes
HSDSCH_DL_RLC_thp_3500..4000	Long		Nullable, but ≥ 0 if present	The HS-DSCH DL RLC throughput (user data), excluding retransmissions. Reported on the HS-DSCH cell. 3500 - 4000 kbps	
HSDSCH_DL_RLC_thp_4000..4500	Long		Nullable, but ≥ 0 if present	The HS-DSCH DL RLC throughput (user data), excluding retransmissions. Reported on the HS-DSCH cell. 4000 - 4500 kbps	
HSDSCH_DL_RLC_thp_4500..5000	Long		Nullable, but ≥ 0 if present	The HS-DSCH DL RLC throughput (user data), excluding retransmissions. Reported on the HS-DSCH cell. 4500 - 5000 kbps	
HSDSCH_DL_RLC_thp_5000..6000	Long		Nullable, but ≥ 0 if present	The HS-DSCH DL RLC throughput (user data), excluding retransmissions. Reported on the HS-DSCH cell. 5000 - 6000 kbps	
HSDSCH_DL_RLC_thp_6000..7000	Long		Nullable, but ≥ 0 if present	The HS-DSCH DL RLC throughput (user data), excluding retransmissions. Reported on the HS-DSCH cell. 6000 - 7000 kbps	
HSDSCH_DL_RLC_thp_7000..8000	Long		Nullable, but ≥ 0 if present	The HS-DSCH DL RLC throughput (user data), excluding retransmissions. Reported on the HS-DSCH cell. 7000 - 8000 kbps	
HSDSCH_DL_RLC_thp_8000..10000	Long		Nullable, but ≥ 0 if present	The HS-DSCH DL RLC throughput (user data), excluding retransmissions. Reported on the HS-DSCH cell. 8000 - 10000 kbps	

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Field name	Type	Maximum length	Constraints	Field description	Notes
HSDSCH_DL_RLC_thp_10000..12000	Long		Nullable, but ≥ 0 if present	The HS-DSCH DL RLC throughput (user data), excluding retransmissions. Reported on the HS-DSCH cell. 10000 - 12000 kbps	
HSDSCH_DL_RLC_thp_above_12000	Long		Nullable, but ≥ 0 if present	The HS-DSCH DL RLC throughput (user data), excluding retransmissions. Reported on the HS-DSCH cell. >12000 kbps	
HSUPA_Active_Concurrent_Users	Integer		Nullable, but ≥ 0 if present	Number HSUPA Active Concurrent User	
HSUPA_AdministrativeDowntime	Integer		Nullable, but ≥ 0 if present	<p>HSUPA Administrative downtime is a measure of the unavailability of HSUPA service in a CELL in this measurement period due to administrative downtime. A Cell is administratively locked by a system administrator and is usually for planned maintenance (though it occasionally occurs due to system administrator error)</p> <p>HSUPA administrative downtime is the time (in seconds) during this measurement period in which HSUPA service in the CELL is unavailable due to planned administrative downtime.</p>	
HSUPA_ATT_RAB_Estab_Bronze	Long		Nullable, but ≥ 0 if present	Number of the HSUPA RAB establish attempts of BE service for Bronze level user	

Field name	Type	Maximum length	Constraints	Field description	Notes
HSUPA_ATT_RAB_Estab_Gold	Long		Nullable, but ≥ 0 if present	Number of the HSUPA RAB establish attempts of BE service for Gold level user	
HSUPA_ATT_RAB_Estab_Silver	Long		Nullable, but ≥ 0 if present	Number of the HSUPA RAB establish attempts of BE service for Silver level user	
HSUPA_Att_RAB_Setup	Long		Nullable, but ≥ 0 if present	The number of HSUPA Uplink RAB setup attempts.	
HSUPA_BronzeBeMeanChThroughput	Long		Nullable, but ≥ 0 if present	mean uplink throughput per bronze BE MAC-D flow	
HSUPA_Estab_MaxTime	Long		Nullable, but ≥ 0 if present	Maximum delay of successful HSUPA service establishment in the best cell.	
HSUPA_Fail_RAB_Setup_NwCapacity	Long		Nullable, but ≥ 0 if present	The number of HSUPA Uplink RAB setup attempts that failed due to network capacity problems (for example, congestion).	
HSUPA_Fail_RAB_Setup_NwFailure	Long		Nullable, but ≥ 0 if present	The number of HSUPA Uplink RAB setup attempts that failed due to failures in either network equipment or procedures.	
HSUPA_Fail_RAB_Setup_UE	Long		Nullable, but ≥ 0 if present	The number of HSUPA Uplink RAB setup attempts that failed due to user equipment problems.	
HSUPA_Gold_MeanChThroughput	Long		Nullable, but ≥ 0 if present	mean uplink throughput per gold MAC-D flow	
HSUPA_Mean_Ch_Throughput	Long		Nullable, but ≥ 0 if present	Mean uplink throughput per MAC-D flow	
HSUPA_Operational_Cells	Integer		Nullable, but ≥ 0 if present	HSUPA Number of Operational Cells, number 1 if the cell is operational	

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Field name	Type	Maximum length	Constraints	Field description	Notes
HSUPA_OperationalDowntime	Integer		Nullable, but ≥ 0 if present	<p>HSUPA operational downtime is a measure of the unavailability of HSUPA service in a CELL in this measurement period due to unplanned downtime.</p> <p>HSUPA operational downtime is the time (in seconds) during this measurement period in which HSUPA service in the CELL is unavailable due to unplanned (for example, malfunction) downtime.</p>	
HSUPA_RAB_Loss_Abnorm	Long		Nullable, but ≥ 0 if present	Number of HSUPA RAB abnormal release due to abnormal cause.	
HSUPA_RAB_Loss_Norm	Long		Nullable, but ≥ 0 if present	Number of HSUPA RAB release due to normal cause.	
HSUPA_RAB_Loss_UEGen	Long		Nullable, but ≥ 0 if present	Number of HSUPA RAB release due to UE signal connection failure.	
HSUPA_SilverBeMeanChThroughput	Long		Nullable, but ≥ 0 if present	Mean uplink throughput per silver BE MAC-D flow.	
HSUPA_Succ_RAB_Estab_Bronze	Long		Nullable, but ≥ 0 if present	Number of the successful HSUPA RAB establish attempts of BE service for Bronze level user	
HSUPA_Succ_RAB_Estab_Gold	Long		Nullable, but ≥ 0 if present	Number of successful HSUPA RAB establishments of BE service for Gold level user	
HSUPA_Succ_RAB_Estab_Silver	Long		Nullable, but ≥ 0 if present	Number of the successful HSUPA RAB establish attempts of BE service for Silver level user	

Field name	Type	Maximum length	Constraints	Field description	Notes
HSUPA_Succ_RAB_Setup	Long		Nullable, but ≥ 0 if present	The number of successful HSUPA uplink RAB setup attempts.	
HSUPA_Total_Cells	Integer		Nullable, but ≥ 0 if present	Total number of HSUPA operational and non-operational Cells	
HSUPA_ULUserDataTransmitTime	Integer		Nullable, but ≥ 0 if present	The time that data was being actively transmitted uplink for HSUPA data sessions.	
HSUPA_ULUserDataVolume	Integer		Nullable, but ≥ 0 if present	The HSUPA Uplink data volume (excluding retransmissions)	
IRATHO_AttOutPSUTRAN	Long		Nullable, but ≥ 0 if present	The number of outgoing UTRAN controlled UMTS-PS to GERAN handover attempts.	
IRATHO_FailOutPSUTRAN	Long		Nullable, but ≥ 0 if present	The number of failed outgoing UTRAN controlled UMTS-PS to GERAN handover attempts.	
IRATHO_SuccOutPSUTRAN	Long		Nullable, but ≥ 0 if present	The number of successful outgoing UTRAN controlled UMTS-PS to GERAN handover attempts.	
MBMS_IU_Failure	Long		Nullable, but ≥ 0 if present	Session start failure of MBMS	
MBMS_IU_Success	Long		Nullable, but ≥ 0 if present	Session start success of MBMS	
PSR99_ServiceEstablish_MaxTime	Long		Nullable, but ≥ 0 if present	Maximum delay of successful PS R99 service establishment in the best cell.	
R99_DL_RLC_thp_0..5	Long		Nullable, but ≥ 0 if present	The R99 DL RLC throughput (user data), excluding retransmissions. 0 - 5 kbps	
R99_DL_RLC_thp_5..20	Long		Nullable, but ≥ 0 if present	The R99 DL RLC throughput (user data), excluding retransmissions. 5 - 20 kbps	

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Field name	Type	Maximum length	Constraints	Field description	Notes
R99_DL_RLC_thp_20..40	Long		Nullable, but ≥ 0 if present	The R99 DL RLC throughput (user data), excluding retransmissions. 20 - 40 kbps	
R99_DL_RLC_thp_40..60	Long		Nullable, but ≥ 0 if present	The R99 DL RLC throughput (user data), excluding retransmissions. 40 - 60 kbps	
R99_DL_RLC_thp_60..80	Long		Nullable, but ≥ 0 if present	The R99 DL RLC throughput (user data), excluding retransmissions. 60 - 80 kbps	
R99_DL_RLC_thp_80..100	Long		Nullable, but ≥ 0 if present	The R99 DL RLC throughput (user data), excluding retransmissions. 80 - 100 kbps	
R99_DL_RLC_thp_100..120	Long		Nullable, but ≥ 0 if present	The R99 DL RLC throughput (user data), excluding retransmissions. 100 - 120 kbps	
R99_DL_RLC_thp_120..140	Long		Nullable, but ≥ 0 if present	The R99 DL RLC throughput (user data), excluding retransmissions. 120 - 140 kbps	
R99_DL_RLC_thp_140..160	Long		Nullable, but ≥ 0 if present	The R99 DL RLC throughput (user data), excluding retransmissions. 140 - 160 kbps	
R99_DL_RLC_thp_160..180	Long		Nullable, but ≥ 0 if present	The R99 DL RLC throughput (user data), excluding retransmissions. 160 - 180 kbps	
R99_DL_RLC_thp_180..200	Long		Nullable, but ≥ 0 if present	The R99 DL RLC throughput (user data), excluding retransmissions. 180 - 200 kbps	
R99_DL_RLC_thp_200..220	Long		Nullable, but ≥ 0 if present	The R99 DL RLC throughput (user data), excluding retransmissions. 200 - 220 kbps	
R99_DL_RLC_thp_220..240	Long		Nullable, but ≥ 0 if present	The R99 DL RLC throughput (user data), excluding retransmissions.	

Field name	Type	Maximum length	Constraints	Field description	Notes
				220 - 240 kbps	
R99_DL_RLC_thp_240..260	Long		Nullable, but ≥ 0 if present	The R99 DL RLC throughput (user data), excluding retransmissions. 240 - 260 kbps	
R99_DL_RLC_thp_260..280	Long		Nullable, but ≥ 0 if present	The R99 DL RLC throughput (user data), excluding retransmissions. 260 - 280 kbps	
R99_DL_RLC_thp_280..300	Long		Nullable, but ≥ 0 if present	The R99 DL RLC throughput (user data), excluding retransmissions. 280 - 300 kbps	
R99_DL_RLC_thp_300..320	Long		Nullable, but ≥ 0 if present	The R99 DL RLC throughput (user data), excluding retransmissions. 300 - 320 kbps	
R99_DL_RLC_thp_320..340	Long		Nullable, but ≥ 0 if present	The R99 DL RLC throughput (user data), excluding retransmissions. 320 - 340 kbps	
R99_DL_RLC_thp_340..360	Long		Nullable, but ≥ 0 if present	The R99 DL RLC throughput (user data), excluding retransmissions. 340..360 kbps	
R99_DL_RLC_thp_above_360	Long		Nullable, but ≥ 0 if present	The R99 DL RLC throughput (user data), excluding retransmissions. >360 kbps	
RAB_AttEstabPS	Long		Nullable, but ≥ 0 if present	The number of PS RAB establishment attempts	
RAB_AttEstabPS_Background	Long		Nullable, but ≥ 0 if present	The number of RAB establishment attempts with Background Traffic Class.	
RAB_AttEstabPS_Conversational	Long		Nullable, but ≥ 0 if present	The number of RAB establishment attempts with Conversational Traffic Class.	
RAB_AttEstabPS_Interactive	Long		Nullable, but ≥ 0 if present	The number of RAB establishment attempts with Interactive Traffic	

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Field name	Type	Maximum length	Constraints	Field description	Notes
				Class.	
RAB_AttEstabPS_Streaming	Long		Nullable, but ≥ 0 if present	The number of RAB establishment attempts with Streaming Traffic Class.	
RAB_AttRelPS_Normal	Long		Nullable, but ≥ 0 if present	The number of PS RAB normal release requests initiated by the core network.	
RAB_AttRelPS_NwFailure	Long		Nullable, but ≥ 0 if present	The number of PS RAB release requests initiated by the core network due to failures in either network equipment or procedures.	
RAB_AttRelPS_OM	Long		Nullable, but ≥ 0 if present	Number of PS RABs requested to release in the best cell with the cause of "O&M Intervention"	
RAB_AttRelPS_OtherFailure	Long		Nullable, but ≥ 0 if present	The number of PS RAB release requests initiated by the core network due to any other reason.	
RAB_AttRelPS_Preemption	Long		Nullable, but ≥ 0 if present	The number of PS RAB release requests initiated by the core network due to pre-emption, for example emergency calls.	
RAB_AttRelPS_UE	Long		Nullable, but ≥ 0 if present	The number of PS RAB release requests initiated by the core network due to user equipment problems.	
RAB_AttRelPS_UeInact	Long		Nullable, but ≥ 0 if present	Number of PS conversational service RABs requested to release in the best cell with the cause of "User Inactivity"	
RAB_AttRelPS_UtranGen	Long		Nullable, but ≥ 0 if present	Number of PS RABs requested to release in the best cell with the cause	

Field name	Type	Maximum length	Constraints	Field description	Notes
				of "Release due to UTRAN Generated Cause"	
RAB_FailEstab_PS	Long		Nullable, but ≥ 0 if present	The number of failed RAB establishment attempts	
RAB_FailEstabPS_NwCapacity	Long		Nullable, but ≥ 0 if present	The number of failed RAB establishment attempts due to network resource limitations (capacity.)	
RAB_FailEstabPS_NwFailure	Long		Nullable, but ≥ 0 if present	The number of failed RAB establishment attempts due to network failure.	
RAB_FailEstabPS_OtherFailure	Long		Nullable, but ≥ 0 if present	The number of failed RAB establishment attempts due to any other reason.	
RAB_FailEstabPS_UE	Long		Nullable, but ≥ 0 if present	The number of failed RAB establishment attempts due to user equipment problem	
RAB_FailEstPs_Code_Cong	Long		Nullable, but ≥ 0 if present	Count of PS Domain RAB Assignment RAB Failed in setting up Congestion because of code	
RAB_FailEstPs_DLCE_Cong	Long		Nullable, but ≥ 0 if present	Number of PS RABs unsuccessfully setup by RAB assignment request in each cell caused by unavailable resources because of DL CE.	
RAB_FailEstPs_Power_Cong	Long		Nullable, but ≥ 0 if present	Count of PS Domain RAB Assignment RAB Failed in setting up Congestion because of power	
RAB_FailEstPs_ULCE_Cong	Long		Nullable, but ≥ 0 if present	Number of PS RABs unsuccessfully setup by RAB	

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Field name	Type	Maximum length	Constraints	Field description	Notes
				assignment request in each cell caused by unavailable resources because of UL CE.	
RAB_FailRelPS	Long		Nullable, but ≥ 0 if present	The number of failed PS RAB release requests initiated by the core network.	
RAB_RelReqPS_Normal	Long		Nullable, but ≥ 0 if present	The number of PS RAB normal release requests initiated by the UTRAN.	
RAB_RelReqPS_NwFailure	Long		Nullable, but ≥ 0 if present	The number of PS RAB release requests initiated by the UTRAN due to failures in either network equipment or procedures.	
RAB_RelReqPS_OtherFailure	Long		Nullable, but ≥ 0 if present	The number of PS RAB release requests initiated by the UTRAN due to any other reason.	
RAB_RelReqPS_Preemption	Long		Nullable, but ≥ 0 if present	The number of PS RAB release requests initiated by the UTRAN due to pre-emption, for example an emergency call.	
RAB_RelReqPS_UE	Long		Nullable, but ≥ 0 if present	The number of PS RAB release requests initiated by the UTRAN due to user equipment problems.	
RAB_SuccEstabPS_Background	Long		Nullable, but ≥ 0 if present	The number of Successful RAB establishment attempts with Background Traffic Class.	
RAB_SuccEstabPS_Conversational	Long		Nullable, but ≥ 0 if present	The number of Successful RAB establishment attempts with Conversational Traffic Class.	
RAB_SuccEstabPS_Interactive	Long		Nullable, but ≥ 0 if present	The number of Successful RAB establishment attempts with	

Field name	Type	Maximum length	Constraints	Field description	Notes
				Interactive Traffic Class.	
RAB_SuccEstabPS_Streaming	Long		Nullable, but ≥ 0 if present	The number of Successful RAB establishment attempts with Streaming Traffic Class.	
RAB_SuccRelPS	Long		Nullable, but ≥ 0 if present	The number of successful PS RAB release requests initiated by the core network.	
Requested_interRAT_EDCH_handover_3G_2G	Long		Nullable, but ≥ 0 if present	The number of requested inter-RAT E-DCH handover (3G->2G)	
Requested_interRAT_EDCH_handover_2G_3G	Long		Nullable, but ≥ 0 if present	The number of requested inter-RAT E-DCH handover (2G->3G)	
Requested_interRAT_PS_Incoming_handover_2G_3G	Long		Nullable, but ≥ 0 if present	The number of requested inter-RAT PS incoming handover on the RNC	
Requested_interRAT_PS_Outgoing_handover_3G_2G	Long		Nullable, but ≥ 0 if present	The number of requested inter-RAT PS outgoing handover on the RNC	
RRC_AttConnEstab	Long		Nullable, but ≥ 0 if present	The number of RRC connection establishment attempts.	
RRC_AttConnEstab_EDCH	Long		Nullable, but ≥ 0 if present	Number of UL over E-DCH Connection Requests	
RRC_AttConnEstab_HSDSCH	Long		Nullable, but ≥ 0 if present	Number of DL over HS-DSCH Connection Requests	
RRC_AttConnRel_Normal	Long		Nullable, but ≥ 0 if present	The number of RRC connection release attempts for normal termination reasons.	
RRC_AttConnRel_NwFailure	Long		Nullable, but ≥ 0 if present	The number of RRC connection release attempts due to failures in either network equipment or procedures.	

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Field name	Type	Maximum length	Constraints	Field description	Notes
RRC_AttConnRel_OtherFailure	Long		Nullable, but ≥ 0 if present	The number of RRC connection release attempts for any other reason.	
RRC_AttConnRel_Preemption	Long		Nullable, but ≥ 0 if present	The number of RRC connection release attempts due to pre-emption.	
RRC_AttConnRel_UE	Long		Nullable, but ≥ 0 if present	The number of RRC connection release attempts due to user equipment problems.	
RRC_FailConnEstab	Long		Nullable, but ≥ 0 if present	the number of failed RRC connection setups in a cell	
RRC_FailConnEstab_NwCapacity	Long		Nullable, but ≥ 0 if present	The number of failed RRC connection establishment attempts due to network capacity problems	
RRC_FailConnEstab_NwFailure	Long		Nullable, but ≥ 0 if present	The number of failed RRC connection establishment attempts due to failures in either network equipment or procedures.	
RRC_FailConnEstab_OtherFailure	Long		Nullable, but ≥ 0 if present	The number of failed RRC connection establishment attempts due to any other reason.	
RRC_FailConnEstab_UE	Long		Nullable, but ≥ 0 if present	The number of failed RRC connection establishment attempts due to user equipment problems.	
RRC_Rej_Code_Cong	Long		Nullable, but ≥ 0 if present	Failure of requesting for code resources.	
RRC_Rej_DL_CE_Cong	Long		Nullable, but ≥ 0 if present	Failure of requesting for downlink CE resources in a cell.	
RRC_Rej_DLIUBBandCong	Long		Nullable, but ≥ 0 if present	RNC admission algorithm rejection due to congestion of	

Field name	Type	Maximum length	Constraints	Field description	Notes
				the downlink lub interface bandwidth.	
RRC_Rej_Power_Cong	Long		Nullable, but ≥ 0 if present	Failure of requesting for power resources.	
RRC_Rej_UL_CE_Cong	Long		Nullable, but ≥ 0 if present	Failure of requesting for uplink CE resources in a cell.	
RRC_Rej_ULIUBBandCong	Long		Nullable, but ≥ 0 if present	RNC admission algorithm rejection due to congestion of the uplink lub interface bandwidth.	
RRC_SuccConnEstab	Long		Nullable, but ≥ 0 if present	The number of successful RRC connection establishment attempts.	
UMTS_Active_Concurrent_Users	Integer		Nullable, but ≥ 0 if present	Number UMTS Active Concurrent User	
UMTS_AdministrativeDowntime	Integer		Nullable, but ≥ 0 if present	<p>UMTS Administrative downtime is a measure of the unavailability of UMTS service in a CELL in this measurement period due to administrative downtime. A Cell is administratively locked by a system administrator and is usually for planned maintenance (though it occasionally occurs due to system administrator error)</p> <p>UMTS administrative downtime is the time (in seconds) during this measurement period in which UMTS service in the CELL is unavailable due to planned administrative downtime.</p>	

Field name	Type	Maximum length	Constraints	Field description	Notes
UMTS_DLUserDataTransmitTime	Integer		Nullable, but ≥ 0 if present	The time that data was being actively transmitted downlink for UMTS (non-HSPDA) data sessions.	
UMTS_DLUserDataVolume	Integer		Nullable, but ≥ 0 if present	The UMTS (non-HSDPA) downlink data volume (excluding retransmissions.)	
UMTS_Operational_Cells	Integer		Nullable, but ≥ 0 if present	UMTS Number of Operational Cells, number 1 if the cell is operational	
UMTS_OperationalDowntime	Integer		Nullable, but ≥ 0 if present	<p>UMTS operational downtime is a measure of the unavailability of UMTS service in a CELL in this measurement period due to unplanned downtime.</p> <p>UMTS operational downtime is the time (in seconds) during this measurement period in which UMTS service in the CELL is unavailable due to unplanned (for example, malfunction) downtime.</p>	
UMTS_Radio_Block_Error_Rate	Integer		Nullable, but ≥ 0 if present	UMTS radio block error rate (BLER)	
UMTS_Total_Cells	Integer		Nullable, but ≥ 0 if present	Total number of UMTS operational and non-operational Cells	
Total_traffic_Kbs	Long		Nullable, but ≥ 0 if present	Total uplink and downlink traffic data of CS and PS in kilobits per second.	

Example UTRAN file:

```

CellName,CGI,MSC,NodeB,NodeB_Address,SOURCE_VENDOR,VENDOR_VERSION,DCH_DL_RAB_Throughput,DCH_UL_RAB_Throughput,EUL_UL_RLC_thp_0..25,EUL_UL_RLC_thp_25..50,EUL_UL_RLC_thp_50..100,EUL_UL_RLC_thp_100..200,EUL_UL_RLC_thp_200..300,EUL_UL_RLC_thp_300..400,EUL_UL_RLC_thp_400..500,EUL_UL_RLC_thp_500..600,EUL_UL_RLC_thp_600..700,EUL_UL_RLC_thp_700..800,

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EUL_UL_RLC_thp_800..900,EUL_UL_RLC_thp_900..1000,EUL_UL_RLC_thp_1000..1100,EUL_UL_RLC_thp_1100..1200,EUL_UL_RLC_thp_1200..1400,EUL_UL_RLC_thp_1400..1600,EUL_UL_RLC_thp_1600..1800,EUL_UL_RLC_thp_1800..2000,EUL_UL_RLC_thp_2000..2500,EUL_UL_RLC_thp_2500..3000,EUL_UL_RLC_thp_3000..3500,EUL_UL_RLC_thp_3500..4000,EUL_UL_RLC_thp_4000..4500,EUL_UL_RLC_thp_4500..5000,EUL_UL_RLC_thp_5000..6000,EUL_UL_RLC_thp_above_6000,Failed_interRAT_PS_Incoming_handover_2G_3G,Failed_interRAT_PS_Outgoing_handover_2G_3G,Failed_interRAT_EDCH_handover_2G_3G,HSDPA_Radio_Block_Error_Rate,HSDPA_Active_Concurrent_Users,HSDPA_AdministrativeDowntime,HSDPA_Att_RAB_Setup,HSDPA_Att_RRC,HSDPA_ATT_RAB_Estab_BE_Bronze,HSDPA_ATT_RAB_Estab_BE_Gold,HSDPA_ATT_RAB_Estab_BE_Silver,HSDPA_AtthSBearerRel_Normal,HSDPA_AtthSBearerRel_NwFailure,HSDPA_AtthSBearerRel_OtherFailure,HSDPA_AtthSBearerRel_Preemption,HSDPA_AtthSBearerSetup,HSDPA_DLUserDataTransmitTime,HSDPA_DLUserDataVolume,HSDPA_Estab_MaxTime,HSDPA_FailHSDPABearerSetup_NwCapacity,HSDPA_FailHSDPABearerSetup_NwFailure,HSDPA_FailHSDPABearerSetup_UE,HSDPA_Mean_Ch_Throughput,HSDPA_MeanBronzeBeChThroughput,HSDPA_MeanGoldBeChThroughput,HSDPA_MeanSilverBeChThroughput,HSDPA_Operational_Cells,HSDPA_OperationalDowntime,HSDPA_Succ_RAB_Estab_BE_Bronze,HSDPA_Succ_RAB_Estab_BE_Gold,HSDPA_Succ_RAB_Estab_BE_Silver,HSDPA_Succ_RAB_Setup,HSDPA_Succ_RRC,HSDPA_SuccHS_DL_BearerSetup,HSDPA_Total_Cells,HSDSCH_DL_RLC_thp_0..25,HSDSCH_DL_RLC_thp_25..50,HSDSCH_DL_RLC_thp_50..100,HSDSCH_DL_RLC_thp_100..200,HSDSCH_DL_RLC_thp_200..300,HSDSCH_DL_RLC_thp_300..400,HSDSCH_DL_RLC_thp_400..500,HSDSCH_DL_RLC_thp_500..600,HSDSCH_DL_RLC_thp_600..700,HSDSCH_DL_RLC_thp_700..800,HSDSCH_DL_RLC_thp_800..900,HSDSCH_DL_RLC_thp_900..1000,HSDSCH_DL_RLC_thp_1000..1100,HSDSCH_DL_RLC_thp_1100..1200,HSDSCH_DL_RLC_thp_1200..1400,HSDSCH_DL_RLC_thp_1400..1600,HSDSCH_DL_RLC_thp_1600..1800,HSDSCH_DL_RLC_thp_1800..2000,HSDSCH_DL_RLC_thp_2000..2500,HSDSCH_DL_RLC_thp_2500..3000,HSDSCH_DL_RLC_thp_3000..3500,HSDSCH_DL_RLC_thp_3500..4000,HSDSCH_DL_RLC_thp_4000..4500,HSDSCH_DL_RLC_thp_4500..5000,HSDSCH_DL_RLC_thp_5000..6000,HSDSCH_DL_RLC_thp_6000..7000,HSDSCH_DL_RLC_thp_7000..8000,HSDSCH_DL_RLC_thp_8000..10000,HSDSCH_DL_RLC_thp_10000..12000,HSDSCH_DL_RLC_thp_above_12000,HSUPA_Active_Concurrent_Users,HSUPA_AdministrativeDowntime,HSUPA_ATT_RAB_Estab_Bronze,HSUPA_ATT_RAB_Estab_Gold,HSUPA_ATT_RAB_Estab_Silver,HSUPA_Att_RAB_Setup,HSUPA_BronzeBeMeanChThroughput,HSUPA_Estab_MaxTime,HSUPA_Fail_RAB_Setup_NwCapacity,HSUPA_Fail_RAB_Setup_NwFailure,HSUPA_Fail_RAB_Setup_UE,HSUPA_Gold_MeanChThroughput,HSUPA_Mean_Ch_Throughput,HSUPA_Operational_Cells,HSUPA_OperationalDowntime,HSUPA_RAB_Loss_Abnorm,HSUPA_RAB_Loss_Norm,HSUPA_RAB_Loss_UEGen,HSUPA_SilverBeMeanChThroughput,HSUPA_Succ_RAB_Estab_Bronze,HSUPA_Succ_RAB_Estab_Gold,HSUPA_Succ_RAB_Estab_Silver,HSUPA_Succ_RAB_Setup,HSUPA_Total_Cells,HSUPA_ULUserDataTransmitTime,HSUPA_ULUserDataVolume,IRATHO_AtOutPSUTRAN,IRATHO_FailOutPSUTRAN,IRATHO_SuccOutPSUTRAN,MBMS_IU_Failure,MBMS_IU_Success,PSR99_ServiceEstablish_MaxTime,R99_DL_RLC_thp_0..5,R99_DL_RLC_thp_5..20,R99_DL_RLC_thp_20..40,R99_DL_RLC_thp_40..60,R99_DL_RLC_thp_60..80,R99_DL_RLC_thp_80..100,R99_DL_RLC_thp_100..120,R99_DL_RLC_thp_120..140,R99_DL_RLC_thp_140..160,R99_DL_RLC_thp_160..180,R99_DL_RLC_thp_180..200,R99_DL_RLC_thp_200..220,R99_DL_RLC_thp_220..240,R99_DL_RLC_thp_240..260,R99_DL_RLC_thp_260..280,R99_DL_RLC_thp_280..300,R99_DL_RLC_thp_300..320,R99_DL_RLC_thp_320..340,R99_DL_RLC_thp_340..360,R99_DL_RLC_thp_above_360,RAB_AttEstabPS,RAB_AttEstabPS_Background,RAB_AttEstabPS_Conversational,RAB_AttEstabPS_Interactive,RAB_AttEstabPS_Streaming,RAB_AttRelPS_Normal,RAB_AttRelPS_NwFailure,RAB_AttRelPS_OM,RAB_AttRelPS_OtherFailure,RAB_AttRelPS_Preemption,RAB_AttRelPS_UE,RAB_AttRelPS_UeInact,RAB_AttRelPS_UtranGen,RAB_FailEstab_PS,RAB_FailEstabPS_NwCapacity,RAB_FailEstabPS_NwFailure,RAB_FailEstabPS_OtherFailure,RAB_FailEstabPS_UE,RAB_FailEstPs_Code_Cong,RAB_FailEstPs_DLCE_Cong,RAB_FailEstPs_Power_Cong,RAB_FailEstPs_ULCE_Cong,RAB_FailRelPS,RAB_RelReqPS_Normal,RAB_RelReqPS_NwFailure,RAB_RelReqPS_OtherFailure,RAB_RelReqPS_Preemption,RAB_RelReqPS_UE,RAB_SuccEstabPS_Background,RAB_SuccEstabPS_Conversational,RAB_SuccEstabPS_Interactive,RAB_SuccEstabPS_Streaming,RAB_SuccRelPS,Requested_interRAT_EDCH_handover_2G_3G,Requested_interRAT_EDCH_handover_2G_3G,Requested_interRAT_PS_Incoming_handover_2G_3G,Requested_interRAT_PS_Outgoing_handover_2G_3G,RRC_AttConnEstab,RRC_AttConnEstab_EDCH,RRC_AttConnEstab_HSDSCH,RRC_AttConnRel_Normal,RRC_AttConnRel_NwFailure,RRC_AttConnRel_OtherFailure,RRC_AttConnRel_Preemption,RRC_AttConnRel_UE,RRC_FailConnEstab,RRC_FailConnEstab_NwCapacity,RRC_FailConnEstab_NwFailure,RRC_FailConnEstab_OtherFailure,RRC_FailConnEstab_UE,RRC_Rej_Code_Cong,RRC_Rej_DL_CE_Cong,RRC_Rej_DLIUBandCong,RRC_Rej_Power_Cong,RRC_Rej_UL_CE_Cong,RRC_Rej_ULIUBandCong,RRC_SuccConnEstab,UMTS_Active_Concurrent_Users,UMTS_AdministrativeDowntime,UMTS_DLUserDataTransmitTime,UMTS_DLUserDataVolume,UMTS_Operational_Cells,UMTS_OperationalDowntime,UMTS_Radio_Block_Error_Rate,UMTS_Total_Cells,Total_traffic_Kbs

```
WQOYINMU_1,7894103EA8C4D8,MSC1,WQOYINMU,10.9.10.1,4,RNC10.12,200,150,1,0,1,2,3,5,7,6,9
,12,13,17,16,20,21,20,22,21,18,5,2,1,0,0,0,0,0,0,0,3,20000,0,200,300,150,20,20,0,0,0
,0,150,4,100000,50,0,0,0,300,1200,2000,1000,12000,0,130,15,15,150,270,200,15000,2,8,12
,13,13,16,16,20,21,15,16,20,21,20,22,18,5,2,1,0,0,0,0,0,0,0,0,0,0,10000,2,100,20,20,
150,300,50,0,0,0,800,300,10000,0,0,0,0,500,30,50,100,180,15000,1000,40000,40,0,34,0,40
,50,1,2,2,3,3,4,6,25,34,30,12,10,5,3,4,3,2,1,0,0,200,80,80,80,80,250,0,0,0,0,0,0,0,0
,0,0,0,0,0,0,0,0,0,0,0,0,0,50,50,50,50,200,0,0,0,0,600,50,50,0,0,0,0,0,0,0,0,0,0,0
,0,0,0,500,1000,0,100,100000,14000,0,5,20000,200000
```

Table 5: Node B CSV data file metric format

Field name	Type	Maximum length	Constraints	Field description	Notes
MSC	Varchar	128	string (up to 128 characters)	MSC Identifier, which is the parent MSC for the current cell.	Nullable
Region	Varchar	64	Text String (64 characters)	Region Identifier, the region for the current Node B	Nullable
NodeB	Varchar	64	Text String (64 characters)	The name of the current Node B, which is the parent Node B for the current cell.	not null - the Node B is filled in by mediation.
NodeB_Address	Varchar	64	Text String (64 characters)	Node B address of location	
SOURCE_VENDOR	Enum		0 - Ericsson 1 - Alcatel Lucent 2 - Nortel 3 - Nokia 4 - Huawei 5- Motorola	The equipment supplier whose systems supplied the metrics provided in this vendor-independent data file.	This field is useful for troubleshooting, for example determining which vendors are not supplying the expected counters. It can also be used to support vendor-specific metrics.
VENDOR_VERSION	Varchar	64	Text string (64 characters) Vendor-Specific Version Number,	The version of the interface of equipment supplier whose systems supplied the metrics provided in this vendor-independent data file, for example R10	This field is useful when understanding how the vendor-neutral field was computed. Different (version-specific) underlying v peg counts may have been used in the computation of the same KPI metric.
UMTS_OperaDowntime_NodeB	Long		Nullable, but ≥ 0 if present.	UMTS operational downtime is a measure of the unavailability of UMTS service in a CELL in this measurement period due to unplanned downtime. UMTS operational downtime is the time (in seconds) during this measurement period in which UMTS service in the	

Field name	Type	Maximum length	Constraints	Field description	Notes
				CELL is unavailable due to unplanned (for example, malfunction) downtime.	
UMTS_AdminDowntime_NodeB	Long		Nullable, but ≥ 0 if present.	<p>UMTS Administrative downtime is a measure of the unavailability of UMTS service in a CELL in this measurement period due to administrative downtime. A Cell is administratively locked by a system administrator and is usually for planned maintenance (though it occasionally occurs due to system administrator error)</p> <p>UMTS administrative downtime is the time (in seconds) during this measurement period in which UMTS service in the CELL is unavailable due to planned administrative downtime.</p>	
HSDPA_UnHappyUserNum	Integer		Nullable, but ≥ 0 if present.	Number of the unhappy users	
HSDPA_UserNum	Integer		Nullable, but ≥ 0 if present.	Number of HSDPA simultaneous Users	
IUB_CongUL	Long		Nullable, but ≥ 0 if present.	times IUB is in UL Congestion Seconds	
IUB_CongDL	Long		Nullable, but ≥ 0 if present.	times IUB is in DL Congestion Seconds	
IUB_TimeCongUL	Long		Nullable, but ≥ 0 if present.	time (in seconds) IUB is in UL Congestion	
IUB_TimeCongDL	Long		Nullable, but ≥ 0 if present.	time (in seconds) IUB is in DL Congestion	
IUB_AVE_NUM_ALL_CLASSES_USERS	Long		Nullable, but ≥ 0 if present.	Iub Average Number of All QoS Class Users	
IUB_MISSED_BW_HSDPA_ALL_USERS	Long		Nullable, but ≥ 0 if present.	Iub Missed Bandwidth for HSDPA All QoS Class Users	
IUB_MISSEDBW_HSUPA_ALLQOS	Long		Nullable, but ≥ 0 if present.	Iub Missed Bandwidth for HSUPA All QoS Class Users	
IUB_MISSED_BW_R99_ALL_USERS	Long		Nullable, but ≥ 0 if present.	Iub Missed Bandwidth for R99 All QoS Class Users	
IUB_RATECTRL_CONG_TIME_SUM	Long		Nullable, but ≥ 0 if present.	Iub DL Rate Control Congestion time percentage	

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Field name	Type	Maximum length	Constraints	Field description	Notes
IUB_RATE_CTRLCONTIM_WRST_PVC	Long		Nullable, but ≥ 0 if present.	Iub DL Rate Control Congestion time percentage on Most Congested PVC	
IUB_UTILIS_R99_ALL_QOS_USERS	Long		Nullable, but ≥ 0 if present.	Iub Utilization for All R99 QoS Class Users	
IUB_UTILIS_HSDPA_ALL_USERS	Long		Nullable, but ≥ 0 if present.	Iub Utilization for HSDPA All QoS Class Users	
IUB_UTILIS_HSUPA_ALL_USERS	Long		Nullable, but ≥ 0 if present.	Iub Utilization for HSUPA All QoS Class Users	
CE_USAGE_DCH_MEAN	Long		Nullable, but ≥ 0 if present.	DCH Channel Element Usage - Mean. For the UCU MRU within the Node B site with the highest DCH allocation, the mean number of Channel Elements in use by 3GPP Release-1999 dedicated channels, expressed as a percentage of the pool of operational Channel Elements supporting 3GPP Release-1999 dedicated channels.	
CE_USAGE_EDCH_MEAN	Long		Nullable, but ≥ 0 if present.	EDCH Channel Element Usage - Mean. within the Node B site with the highest E-DCH utilization, the mean number of busy E-DCH Channel Elements, expressed as a percentage of the maximum number of operational Channel Elements supporting 3GPP Rel-6/7 E-DCH .	
CE_USAGE_HSDPA_MEAN	Long		Nullable, but ≥ 0 if present.	HSDPA Channel Element Usage - Mean. the Node B site with the highest HSDPA utilization, the mean number of busy HSDPA Channel Elements, expressed as a percentage of the maximum number of operational Channel Elements supporting 3GPP Rel-5 HSDPA.	
CE_USAGE	Long		Nullable, but ≥ 0 if present.	The percentage of used CEs (dedicated and common channel elements) from the available CEs. The CE usage gives an indication about the percentage of the Node B capacity, which is currently in use	
MAC_DataFramePayload_EDCH	Long		Nullable, but ≥ 0 if present.	EUL DATA FRAME payload data transmitted by MAC-e (bits)	

Field name	Type	Maximum length	Constraints	Field description	Notes
Iub_UL_Traffic_Volume	Long		Nullable, but ≥ 0 if present.	Uplink payload traffic of Iub user plane for data calls+ Uplink overhead traffic of Iub user plane for data calls	
Iub_DL_Traffic_Volume	Long		Nullable, but ≥ 0 if present.	Downlink payload traffic of Iub user plane for data calls + Downlink overhead traffic of Iub user plane for data calls	
NodeB_CE_Utilis_UL	Float		Nullable, but ≥ 0 if present.	Sum of Node B CE Utilization, UL / Measurement times of Node B CE utilization, UL	
NodeB_CE_Utilis_DL	Float		Nullable, but ≥ 0 if present.	Sum of Node B CE Utilization, DL / Measurement times of Node B CE utilization, DL	
Iub_Bandwidth_Utilization_UL	Float		Nullable, but ≥ 0 if present.	(UL payload traffic for Iub user plane + UL overhead traffic for Iub user plane)/ Provided UL bandwidth for Iub user plane. Maximal used over Provided Bandwidth in UL	
Iub_Bandwidth_Utilization_DL	Float		Nullable, but ≥ 0 if present.	(DL payload traffic for Iub user plane + DL overhead traffic for Iub user plane)/ Provided DL bandwidth for Iub user plane. Maximal used over Maximal Provided Bandwidth in DL	
Average_UL_Thr_Iub_User_Plane	Long		Nullable, but ≥ 0 if present.	Average UL Throughput of Iub User Plane	
Average_DL_Thr_Iub_User_Plane	Long		Nullable, but ≥ 0 if present.	SUM (Node B data: DL payload data volume of Iub user plane + Node B data: DL overhead data volume of Iub user plane) / Measurement period (s)	
Average_UL_Thr_Iub_Sig_Plane	Long		Nullable, but ≥ 0 if present.	SUM (Node B data: UL data volume of Iub signalling plane) / Measurement period (s)	

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Field name	Type	Maximum length	Constraints	Field description	Notes
Average_DL_Thr_lub_Sig_Plane	Long		Nullable, but ≥ 0 if present.	SUM (Node B data: DL data volume of lub signalling plane) / Measurement period (s)	
Average_UL_Thr_of_lub_HSUPA	Long		Nullable, but ≥ 0 if present.	SUM (Node B data. Sum of UL data for HSUPA service. All sub measurements) / Measurement period (s)	
Average_DL_Thr_lub_HSDPA	Long		Nullable, but ≥ 0 if present.	SUM (Node B data. Sum of DL data for HSDPA service. All sub measurements) / Measurement period (s)	
Mean_Jitter_to_Node_B	Long		Nullable, but ≥ 0 if present.	Mean Jitter of Detected Packet to Node B	
Mean_Delay_to_Node_B	Long		Nullable, but ≥ 0 if present.	Mean Delay of Detected Packet to Node B	
HSDPA_Code_Utilization_Average	Long		Nullable, but ≥ 0 if present.	Average HSDPA Code Utilization	
DL_user_data_volume	Long		Nullable, but ≥ 0 if present.	Downlink data volume (excluding retransmissions) in kilobits (Kbit)	
DL_user_data_transmit_time	Long		Nullable, but ≥ 0 if present.	The time in seconds that data was being actively transmitted downlink.	
UL_user_data_volume	Long		Nullable, but ≥ 0 if present.	Uplink data volume (excluding retransmissions) in kilobits (Kbit)	
UL_user_data_transmit_time	Long		Nullable, but ≥ 0 if present.	The time in seconds that data was being actively transmitted uplink.	
sysuptime	Long		Nullable, but ≥ 0 if present.	The time since the Node was last reinitialised.	
CpuUsage_Max	Long		Nullable, but ≥ 0 if present.	Maximum CPU Usage per Node	
MemUsage_Max	Long		Nullable, but ≥ 0 if present.	Maximum Memory Usage per Node	
CpuUsage_Average	Long		Nullable, but ≥ 0 if present.	Average CPU Usage per Node	
MemUsage_Average	Long		Nullable, but ≥ 0 if present.	Average Memory Usage per Node	
UL_Voice_traffic_Kbps	Long		Nullable, but ≥ 0 if present.	Uplink Voice traffic in Kbps, This is total CS traffic AMR, Streaming, UDI.	
DL_Voice_traffic_Kbps	Long		Nullable, but ≥ 0 if present.	Downlink Voice traffic in Kbps, This is total CS traffic AMR, Streaming, UDI.	

Field name	Type	Maximum length	Constraints	Field description	Notes
UL_PS_traffic_Kbps	Long		Nullable, but ≥ 0 if present.	PS traffic throughput (Kbps) in UL. This is total Packet Switch traffic including Streaming, Common	
DL_PS_traffic_Kbps	Long		Nullable, but ≥ 0 if present.	PS traffic throughput in (Kbps) DL. This is total Packet Switch traffic including Streaming, Common	
Number_of_E1_Links	Integer		Nullable, but ≥ 0 if present.	Number of E1 Links	Get it from OSS
Transmit_Carrier_Power	Float		Nullable, but ≥ 0 if present.	Mean Transmitted Carrier Power of cell	Aggregate with Max from Cell level (Max of all Cell under this Node B)
Max_Transmission_Power	Float		Nullable, but ≥ 0 if present.	Transmitted Possible Carrier Power of cell	Get it from OSS and Aggregate with Max from Cell level (Max of all Cell under this Node B)
IuB_RRC_Block	Float		Nullable, but ≥ 0 if present.	The maximum blocking rate due to RRC issues, expressed as a percentage, over all cells on this Node B. RRC issues are calculated by Maximum of AAL2 Connection establishment Failure Rate or admission algorithm rejection due to congestion of the uplink and uplink Iub interface bandwidth over total RRC Requests of (HSDPA, HSUPA,R99)	
IuB_RAB_Block	Float		Nullable, but ≥ 0 if present.	The Maximum of Percentage RAB blocking rate over all cells on this Node B. The RAB Blocking rate is the number of IUB problems over total RAB requests. Total of (HSDPA, HSUPA,R99)	
CE_RRC_Block	Float		Nullable, but ≥ 0 if present.	The Maximum of Percentage CE RRC Blocking rate over all cells on this Node B. The CE RRC Blocking rate is the number of CE problems per Cell over Total number of RRC connection requests. Total of (HSDPA, HSUPA,R99)	For this metric take the Maximum value of all of the individual cells controlled by the NodeB

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Field name	Type	Maximum length	Constraints	Field description	Notes
CE_RAB_Block	Float		Nullable, but ≥ 0 if present.	The Maximum of Percentage CE RAB Blocking rate over all cells on this Node B. The CE RAB blocking rate is the number of CE problems over total RAB requests. Total of (HSDPA, HSUPA,R99)	For this metric take the Maximum value of all of the individual cells controlled by the NodeB
Power_Util	Float		Nullable, but ≥ 0 if present.	The Maximum Percentage Power Utilization of any cell on this Node B, based on the transmission power over the Max Transmission Power.	For this metric take the Maximum value of all of the individual cells controlled by the NodeB
Power_RRC_Block	Float		Nullable, but ≥ 0 if present.	The Maximum of Percentage Power RRC Blocking rate over all cells on this Node B. The Power RRC Blocking Rate is the number of Power issues per Cell over Total number of RRC connection requests. Total of (HSDPA, HSUPA,R99)	For this metric take the Maximum value of all of the individual cells controlled by the NodeB
Power_RAB_Block	Float		Nullable, but ≥ 0 if present.	The Maximum of Percentage Power RAB Blocking rate over all cells on this Node B. The Power RAB Blocking Rate is the number of Power issues over total RAB requests (HSDPA, HSUPA,R99)	For this metric take the Maximum value of all of the individual cells controlled by the NodeB
Code_Util	Float		Nullable, but ≥ 0 if present.	Percentage of Code Utilization	For this metric take the Maximum value of all of the individual cells controlled by the NodeB

Field name	Type	Maximum length	Constraints	Field description	Notes
Code_RRC_Block	Float		Nullable, but ≥ 0 if present.	The Maximum of Percentage Code RRC Blocking rate over all cells on this Node B. The Code RRC Blocking Rate is the number of Code issues over Total number of RRC connection requests. Total of (HSDPA, HSUPA,R99)	For this metric take the Maximum value of all of the individual cells controlled by the NodeB
Code_RAB_Block	Float		Nullable, but ≥ 0 if present.	The Maximum of Percentage Code RAB Blocking rate over all cells on this Node B. The Code RAB Blocking Rate is the number of Code issues over total RAB requests (HSDPA, HSUPA,R99)	For this metric take the Maximum value of all of the individual cells controlled by the NodeB
UMTS_Operational_Node B_Flag	Integer		0..1 ; Integer	This is a 'flag' used to indicate if the Node B is operational or not. Valid values are 1 (Operational) and 0 (Non-Operational)	
Total_Active_Concurrent_Users	Integer		Nullable, but ≥ 0 if present. ; Integer	Total Active Concurrent Users	
HSDPA_Active_Concurrent_Users	Integer		Nullable, but ≥ 0 if present. ; Integer	HSDPA Active Concurrent Users	
HSUPA_Active_Concurrent_Users	Integer		Nullable, but ≥ 0 if present. ; Integer	HSUPA Active Concurrent Users	

Example Node B file:

```
MSC,Region,NodeB,NodeB_Address,SOURCE_VENDOR,VENDOR_VERSION,UMTS_OperaDowntime_NodeB,U
MTS_AdminDowntime_NodeB,HSDPA_UnHappyUserNum,HSDPA_UserNum,IUB_CongUL,IUB_CongDL,IUB_T
imeCongUL,IUB_TimeCongDL,IUB_AVE_NUM_ALL_CLASS_USERS,IUB_MISSED_BW_HSDPA_ALL_USERS,IUB
_MISSEDBW_HSUPA_ALL_QOS,IUB_MISSED_BW_R99_ALL_USERS,IUB_RATECTRL_CONG_TIME_SUM,IUB_RATE
_CTRLCONTIM_WRST_PVC,IUB_UTILIS_R99_ALL_QOS_USERS,IUB_UTILIS_HSDPA_ALL_USERS,IUB_UTILIS
S_HSUPA_ALL_USERS,CE_USAGE_DCH_MEAN,CE_USAGE_EDCH_MEAN,CE_USAGE_HSDPA_MEAN,CE_USAGE,MA
C_DataFramePayload_EDCH,Iub_UL_Traffic_Volume,Iub_DL_Traffic_Volume,NodeB_CE_Utilis_UL
,NodeB_CE_Utilis_DL,Iub_Bandwidth_Utilization_UL,Iub_Bandwidth_Utilization_DL,Average
_UL_Thr_Iub_User_Plane,Average_DL_Thr_Iub_User_Plane,Average_UL_Thr_Iub_Sig_Plane,Avera
ge_DL_Thr_Iub_Sig_Plane,Average_UL_Thr_of_Iub_HSUPA,Average_DL_Thr_Iub_HSDPA,Mean_Jitt
er_to_Node_B,Mean_Delay_to_Node_B,HSDPA_Code_Utilization_Average,DL_user_data_volume,D
```

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L_user_data_transmit_time,UL_user_data_volume,UL_user_data_transmit_time,sysuptime,Cpu
Usage_Max,MemUsage_Max,CpuUsage_Average,MemUsage_Average,UL_Voice_traffic_Kbps,DL_Voi
ce_traffic_Kbps,UL_PS_traffic_Kbps,DL_PS_traffic_Kbps,Number_of_E1_Links,Transmit_Carri
er_Power,Max_Transmission_Power,IuB_RRC_Block,IuB_RAB_Block,CE_RRC_Block,CE_RAB_Block,
Power_Util,Power_RRC_Block,Power_RAB_Block,Code_Util,Code_RRC_Block,Code_RAB_Block,UMT
S_Operational_NodeB_Flag,Total_Active_Concurrent_Users,HSDPA_Active_Concurrent_Users,H
SUPA_Active_Concurrent_Users

MSC1,Region_A,NodeB1,Address1,Vendor_A,NodeB_a_b_10.12,0,0,1,246,2,4,2,2,403,20,12,27,
3,7,44,47,36,39,46,38,36,93512974,67702778,198283202,37,29,44,52,282,597,363,424,311,7
15,2853,2595,21,163,26,123,24,1800,57,46,48,47,182002,146020,128625,144538,5000,27,54,
2,2,1,3,55,1,1,16,2,2,192,464,157,135

```

Table 6: SGSN CSV file

Field name	Type	Maximum length	Constraints	Field description	Notes
SGSNName	Varchar	64	not null	Textual name of SGSN.	
SGSNServiceArea	Varchar	64	Nullable	SGSN Service Area consists of one or more Routing Areas (RA). SGSN Service Area is the region served by the one SGSN.	
SGSNPoolArea	Varchar	64	Nullable	Region served by a pool of SGSNs. If configured the SGSN pool this SGSN belongs to.	
PLMNArea	Varchar	64	Nullable	A PLMN Area is identified by the Mobile Country Code (MCC) and the Mobile Network Code (MNC).	
WCDMAServiceArea	Varchar	64	Nullable	MS in WCDMA Systems Service Area can send and receive data within the GPRS network	
Region	Varchar	64	Nullable	The region which the SGSN is serving.	
ps_paging_successes	Long		Nullable, but ≥ 0 if present.	Number of successfully acknowledged PS pages.	

Field name	Type	Maximum length	Constraints	Field description	Notes
ps_paging_failures	Long		Nullable, but ≥ 0 if present.	Number of PS pages that were not successfully acknowledged. This metric is counted once only in the case where the initial and all repeat attempt pages are not successfully acknowledged, and this metric is not counted in the case where the initial page is not successfully acknowledged but a resulting repeat attempt page is successfully acknowledged.	
attach_successes	Long		Nullable, but ≥ 0 if present.	Number of successful attaches.	
Max_attach_time_delay	Integer		Nullable, but ≥ 0 if present.	Max time in ms between ATTACH REQUEST SGSN sends ATTACH ACCEPTED RESPONSE	
Average_attach_time_delay	Integer		Nullable, but ≥ 0 if present.	Average time in ms between ATTACH REQUEST SGSN sends ATTACH ACCEPTED RESPONSE	
attach_fail_illegal_ms	Long		Nullable, but ≥ 0 if present.	number of IU mode attach reject times due to illegal MS	
attach_fail_illegal_me	Long		Nullable, but ≥ 0 if present.	The number of unsuccessful MM attach procedures which return cause code 6 - Illegal ME (Mobile Equipment)	
attach_fail_gprs_notalwd	Long		Nullable, but ≥ 0 if present.	The number of IU mode attach reject due to GPRS service not allowed	
attach_fail_gprsnongprs_notalwd	Long		Nullable, but ≥ 0 if present.	The number of unsuccessful MM attach procedures that return cause code 8 – GPRS and non-GPRS services not allowed.	
attach_fail_plmn_notalwd	Long		Nullable, but ≥ 0 if present.	The number of unsuccessful MM attach procedures that return cause code 11 – PLMN not allowed.	
attach_fail_notalwd_inLocA	Long		Nullable, but ≥ 0 if present.	The number of unsuccessful MM attach procedures that return cause code 12 – not allowed in this location area.	

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Field name	Type	Maximum length	Constraints	Field description	Notes
attch_fail_roam_notalwd_inLocA	Long		Nullable, but ≥ 0 if present.	The number of unsuccessful MM attach procedures that return cause code 13 – Roaming not allowed in this location area.	
attch_fail_gprs_notalwd_inplmn	Long		Nullable, but ≥ 0 if present.	The number of unsuccessful MM attach procedures that return cause code 14 – GPRS services not allowed in this PLMN.	
attch_fail_no_suitable_cells	Long		Nullable, but ≥ 0 if present.	The number of unsuccessful MM attach procedures that return cause code 15 – No suitable cells in location area.	
attch_fail_network_failure	Long		Nullable, but ≥ 0 if present.	The number of unsuccessful MM attach procedures that return cause code 17 – Network Failure	
attch_fail_congestion	Long		Nullable, but ≥ 0 if present.	The number of unsuccessful MM attach procedures that return cause code 22 – Congestion	
attch_fail_protocol_error	Long		Nullable, but ≥ 0 if present.	The number of unsuccessful MM attach procedures that return cause codes related to protocol error (for example, 96, 99, 100, 111).	
attch_fail_unspReason	Long		Nullable, but ≥ 0 if present.	The number of unsuccessful MM attach procedures that failed due to unspecified reasons	
subs_attached_sample_count	Long		Nullable, but ≥ 0 if present.	Number of samples of number of attached subscribers. For example, if the sample values were 9, 2, 7, 8, then this value would be 4 (for example, 4 samples).	
subs_attached_sample_sum	Long		Nullable, but ≥ 0 if present.	Sum of samples of number of attached subscribers. For example, if the sample values were 9, 2, 7, 8, then this value would be the sum of those – for example, 26.	
mslnit_detach_successes	Long		Nullable, but ≥ 0 if present.	The number of successful MS-Initiated detach procedures.	

Field name	Type	Maximum length	Constraints	Field description	Notes
mslnit_detach_failures	Long		Nullable, but ≥ 0 if present.	The number of unsuccessful MS-Initiated detach procedures.	
nwlinit_detach_successes	Long		Nullable, but ≥ 0 if present.	The number of successful network-Initiated detach procedures.	
nwlinit_detach_failures	Long		Nullable, but ≥ 0 if present.	The number of unsuccessful network-Initiated detach procedures.	
mslnit_pdpAct_successes	Long		Nullable, but ≥ 0 if present.	Number of successful primary PDP context activation procedures.	
mslnit_pdpAct_fail_insufResr	Long		Nullable, but ≥ 0 if present.	The number of unsuccessful primary PDP context Activation procedures due to cause code 26 (Insufficient resources). The reject can be caused by, for example, sustained high processor load on one or more GPBs or IBxxs (used as AP) handling signaling.	
mslnit_pdpAct_fail_noApn	Long		Nullable, but ≥ 0 if present.	Number of unsuccessful primary PDP context activation procedures due to cause code 27 (Unknown or missing access point name), and cause code 28 (Unknown PDP address or PDP type). This is incremented when the SGSN interrogates the Domain Name System (DNS) resolve and there is a failure-name error or if Access Point Name (APN) (SGSN) is not defined or if requested PDP type not sent by MS - error.	
mslnit_pdpAct_fail_userAuth	Long		Nullable, but ≥ 0 if present.	Number of unsuccessful primary PDP context activation procedures due to cause code 29 (User Authentication Failed). The counter is incremented if the request is rejected by the GGSN (Remote Authentication Dial-In User Service (RADIUS)).	

Field name	Type	Maximum length	Constraints	Field description	Notes
mslnit_pdpAct_fail_ggsnReject	Long		Nullable, but ≥ 0 if present.	Number of unsuccessful primary PDP context activation procedures due to cause code 30 (rejected by GGSN).	
mslnit_pdpAct_fail_unspReject	Long		Nullable, but ≥ 0 if present.	Number of unsuccessful primary PDP context activation procedures due to cause code 31 (activation rejected, unspecified).	
mslnit_pdpAct_fail_servOptNs	Long		Nullable, but ≥ 0 if present.	Number of unsuccessful primary PDP context activation procedures due to cause code 32 (Service option not supported), and cause code 33 (Requested Server Option not subscribed). The counter is incremented if the PDP Type is not supported or Network Services Access Point Identifier (NSAPI) Reserved or if the request is denied in the SGSN due to subscriber data restriction.	
mslnit_pdpAct_fail_servOptOos	Long		Nullable, but ≥ 0 if present.	Number of unsuccessful primary PDP context activation procedures due to cause code 34 (service option temporarily out of order).	
mslnit_pdpAct_fail_nsapiInUse	Long		Nullable, but ≥ 0 if present.	Number of unsuccessful primary PDP context activation procedures due to cause code 35 (NSAPI - Network Services Access Point Identifier - is already in use).	
mslnit_pdpAct_fail_nwkFail	Long		Nullable, but ≥ 0 if present.	Number of unsuccessful primary PDP Context activation procedures due to cause code 38 (Network failure).	
mslnit_pdpAct_fail_protocolErr	Long		Nullable, but ≥ 0 if present.	Number of unsuccessful primary PDP Context activation procedures due to protocol error (for example, cause values 95, 96, 97, 98, 99, 100, 101, 111).	

Field name	Type	Maximum length	Constraints	Field description	Notes
mslnit_pdpAct_fail_unspReason	Long		Nullable, but ≥ 0 if present.	Number of unsuccessful primary PDP Context activation procedures due to unspecified reasons. All Failure reasons which are beyond 3GPP and Vendor Specific	
mslnit_2pdpAct_successes	Long		Nullable, but ≥ 0 if present.	Number of successful secondary PDP context activation procedures.	
mslnit_2pdpAct_fail_insufResr	Long		Nullable, but ≥ 0 if present.	The number of unsuccessful secondary PDP context Activation procedures due to cause code 26 (Insufficient resources). The reject can be caused by, for example, sustained high processor load on one or more GPBs or IBxxs (used as AP) handling signalling.	
mslnit_2pdpAct_fail_noApn	Long		Nullable, but ≥ 0 if present.	Number of unsuccessful secondary PDP context activation procedures due to cause code 27 (Unknown or missing access point name), and cause code 28 (Unknown PDP address or PDP type). This is incremented when the SGSN interrogates the Domain Name System (DNS) resolver and there is a failure-name error or if Access Point Name (APN) (SGSN) is not defined or if requested PDP type not sent by MS - error.	
mslnit_2pdpAct_fail_userAuth	Long		Nullable, but ≥ 0 if present.	Number of unsuccessful secondary PDP context activation procedures due to cause code 29 (User Authentication Failed). The counter is incremented if the request is rejected by the GGSN (Remote Authentication Dial-In User Service (RADIUS)).	
mslnit_2pdpAct_fail_ggsnReject	Long		Nullable, but ≥ 0 if present.	Number of unsuccessful secondary PDP context activation procedures due to cause code 30 (rejected by GGSN).	

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Field name	Type	Maximum length	Constraints	Field description	Notes
mslnit_2pdpAct_fail_unspReject	Long		Nullable, but ≥ 0 if present.	Number of unsuccessful secondary PDP context activation procedures due to cause code 31 (activation rejected, unspecified).	
mslnit_2pdpAct_fail_servOptNs	Long		Nullable, but ≥ 0 if present.	Number of unsuccessful secondary PDP context activation procedures due to cause code 32 (Service option not supported), and causecode 33 (Requested Server Option not subscribed). The counter is incremented if the PDP Type is not supported or Network Services Access Point Identifier (NSAPI) Reserved or if the request is denied in the SGSN due to subscriber data restriction.	
mslnit_2pdpAct_fail_servOptOos	Long		Nullable, but ≥ 0 if present.	Number of unsuccessful secondary PDP context activation procedures due to cause code 34 (service option temporarily out of order).	
mslnit_2pdpAct_fail_nsapiInUse	Long		Nullable, but ≥ 0 if present.	Number of unsuccessful secondary PDP context activation procedures due to cause code 35 (NSAPI - Network Services Access Point Identifier - is already in use).	
mslnit_2pdpAct_fail_nwkFail	Long		Nullable, but ≥ 0 if present.	Number of unsuccessful secondary PDP Context activation procedures due to cause code 38 (Network failure).	
mslnit_2pdpAct_fail_TftSem	Long		Nullable, but ≥ 0 if present.	Number of unsuccessful secondary PDP Context activation procedures due to cause code 41 (semantic error in the TFT operation).	
mslnit_2pdpAct_fail_TftSyn	Long		Nullable, but ≥ 0 if present.	Number of unsuccessful secondary PDP Context activation procedures due to cause code 42 (syntactical error in the TFT operation).	

Field name	Type	Maximum length	Constraints	Field description	Notes
mslnit_2pdpAct_fail_unknPdpCxt	Long		Nullable, but ≥ 0 if present.	Number of unsuccessful secondary PDP Context activation procedures due to cause code 43 (unknown PDP context).	
mslnit_2pdpAct_fail_PktFiltSem	Long		Nullable, but ≥ 0 if present.	Number of unsuccessful secondary PDP Context activation procedures due to cause code 44 (semantic errors in packet filters).	
mslnit_2pdpAct_fail_PktFiltSyn	Long		Nullable, but ≥ 0 if present.	Number of unsuccessful secondary PDP Context activation procedures due to cause code 45 (syntactical errors in packet filters).	
mslnit_2pdpAct_fail_TftNotAct	Long		Nullable, but ≥ 0 if present.	Number of unsuccessful secondary PDP Context activation procedures due to cause code 46 (PDP context without TFT already activated).	
mslnit_2pdpAct_fail_protocolErr	Long		Nullable, but ≥ 0 if present.	Number of unsuccessful secondary PDP Context activation procedures due to protocol error (for example, cause values 95, 96, 97, 98, 99, 100, 101, 111).	
mslnit_2pdpAct_fail_unspReason	Long		Nullable, but ≥ 0 if present.	Number of unsuccessful secondary PDP Context activation procedures due to unspecified reasons. Secondary PDP Failure reasons which are beyond 3GPP and Vendor Specific.	
subs_with_pdpCxt_sample_count	Long		Nullable, but ≥ 0 if present.	Number of samples of number of subscribers with an active PDP context. For example, if the sample values were 9, 2, 7, 8, then this value would be 4 (for example, 4 samples).	
subs_with_pdpCxt_sample_sum	Long		Nullable, but ≥ 0 if present.	Sum of samples of number of subscribers with an active PDP context. For example, if the sample values were 9, 2, 7, 8, then this value would be the sum of those – for example, 26.	
mslnit_pdpDeact_successes	Long		Nullable, but ≥ 0 if present.	Number of successful mobile-initiated PDP context de-activations	

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Field name	Type	Maximum length	Constraints	Field description	Notes
mslnit_pdpDeact_failures	Long		Nullable, but ≥ 0 if present.	Number of failed mobile-initiated PDP context de-activations	
nwlnit_pdpDeact_successes	Long		Nullable, but ≥ 0 if present.	Number of successful network-initiated PDP context de-activations	
nwlnit_pdpDeact_failures	Long		Nullable, but ≥ 0 if present.	Number of failed network-initiated PDP context de-activations	
RAB_assign_successes_backgrnd	Long		Nullable, but ≥ 0 if present.	Number of PS RAB assignment successes for background traffic	
RAB_assign_successes_converstn	Long		Nullable, but ≥ 0 if present.	Number of PS RAB assignment successes for conversational traffic	
RAB_assign_successes_streaming	Long		Nullable, but ≥ 0 if present.	Number of PS RAB assignment successes for streaming traffic	
RAB_assign_successes_interact	Long		Nullable, but ≥ 0 if present.	Number of PS RAB assignment successes for interactive traffic	
RAB_assign_failures_backgrnd	Long		Nullable, but ≥ 0 if present.	Number of PS RAB assignment failures for background traffic	
RAB_assign_failures_converstn	Long		Nullable, but ≥ 0 if present.	Number of PS RAB assignment failures for conversational traffic	
RAB_assign_failures_streaming	Long		Nullable, but ≥ 0 if present.	Number of PS RAB assignment failures for streaming traffic	
RAB_assign_failures_interact	Long		Nullable, but ≥ 0 if present.	Number of PS RAB assignment failures for interactive traffic	
mslnit_RAB_release_successes	Long		Nullable, but ≥ 0 if present.	Number of mobile-initiated PS RAB assignment successes	
mslnit_RAB_release_failures	Long		Nullable, but ≥ 0 if present.	Number of mobile-initiated PS RAB assignment failures	
nwlnit_RAB_release_successes	Long		Nullable, but ≥ 0 if present.	Number of network-initiated PS RAB assignment successes	
nwlnit_RAB_release_failures	Long		Nullable, but ≥ 0 if present.	Number of network-initiated PS RAB assignment failures	

Field name	Type	Maximum length	Constraints	Field description	Notes
IRAT_handover_successes	Long		Nullable, but ≥ 0 if present.	Number of IRAT handover successes	
IRAT_handover_failures	Long		Nullable, but ≥ 0 if present.	Number of IRAT handover failures	
attAuthInSgsn	Long		Nullable, but ≥ 0 if present.	The number of Attempt authentication procedures within this SGSN area.	
succAuthInSgsn	Long		Nullable, but ≥ 0 if present.	The number of successful authentication procedures within this SGSN area.	
CpuUsage	Long		Nullable, but ≥ 0 if present.	The current Average CPU load of the NE host in per cents. (Average of All the Cards)	
MemUsage_Max	Long		Nullable, but ≥ 0 if present.	Maximum Memory Usage per Node	
MemUsage_Average	Long		Nullable, but ≥ 0 if present.	Average Memory Usage per Node	
AttAct_PdpContext_Background	Long		Nullable, but ≥ 0 if present.	The number of attempted Background PDP context activation procedures. The counter is incremented when the MS requests the QoS class Background.	
AttAct_PdpContext_Convers	Long		Nullable, but ≥ 0 if present.	The number of attempted conversational PDP context activation procedures. The counter is incremented when the MS requests the QoS class conversational.	
AttAct_PdpContext_Interact	Long		Nullable, but ≥ 0 if present.	The number of attempted interactive PDP context activation procedures. The counter is incremented when the MS requests the QoS class interactive or the subscribed QoS class, when the subscribed QoS class is interactive.	
AttAct_PdpContext_Streaming	Long		Nullable, but ≥ 0 if present.	The number of attempted streaming PDP context activation procedures. The counter is incremented when the MS requests the QoS class streaming.	

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Field name	Type	Maximum length	Constraints	Field description	Notes
SuccAct_PdpContext_Background	Long		Nullable, but ≥ 0 if present.	The number of successfully activated Background PDP context activation procedures. The counter is incremented when the MS requests the QoS class Background.	
SuccAct_PdpContext_Convers	Long		Nullable, but ≥ 0 if present.	The number of successfully activated conversational PDP context activation procedures. The counter is incremented when the MS requests the QoS class conversational.	
SuccAct_PdpContext_Interact	Long		Nullable, but ≥ 0 if present.	The number of successfully activated interactive PDP context activation procedures. The counter is incremented when the MS requests the QoS class interactive or the subscribed QoS class, when the subscribed QoS class is interactive.	
SuccAct_PdpContext_Streaming	Long		Nullable, but ≥ 0 if present.	The number of successfully activated streaming PDP context activation procedures. The counter is incremented when the MS requests the QoS class streaming.	
CurrentGuaranteedBitRate	Integer		Nullable, but ≥ 0 if present.	The current aggregated guaranteed bit rate (UL+DL) for the node, related to streaming PDP contexts.	
DL_PktDiscarded_Background	Long		Nullable, but ≥ 0 if present.	The number of WCDMA downlink background packets discarded.	
DL_PktForwarded_Background	Long		Nullable, but ≥ 0 if present.	The number of WCDMA downlink background packets forwarded.	
DL_PktDiscarded_Convers	Long		Nullable, but ≥ 0 if present.	The number of discarded downlink conversational packets.	
DL_PktForwarded_Convers	Long		Nullable, but ≥ 0 if present.	The number of forwarded downlink conversational packets.	
DL_PktDiscarded_Interactive	Long		Nullable, but ≥ 0 if present.	The number of WCDMA downlink interactive packets discarded.	

Field name	Type	Maximum length	Constraints	Field description	Notes
DL_PktForwarded_Interactive	Long		Nullable, but ≥ 0 if present.	The number of WCDMA downlink interactive packets forwarded.	
DL_PktDiscarded_Streaming	Long		Nullable, but ≥ 0 if present.	The number of WCDMA downlink streaming packets discarded.	
DL_PktForwarded_Streaming	Long		Nullable, but ≥ 0 if present.	The number of WCDMA downlink streaming packets forwarded.	
GuaranteedBitRate_Downgrades	Long		Nullable, but ≥ 0 if present.	The number of times the SGSN has failed to reserve GBR resources for the traffic classes conversational and streaming. If streaming, the traffic class might have been downgraded to interactive.	
GuaranteedBitRate_Attempts	Long		Nullable, but ≥ 0 if present.	The number of times the SGSN has attempted to reserve Guaranteed Bit Rate (GBR) resources for the traffic classes conversational and streaming.	
NbrAct_PdpContext_Background	Integer		Nullable, but ≥ 0 if present.	The number of currently active Background PDP contexts.	
NbrAct_PdpContext_Convers	Integer		Nullable, but ≥ 0 if present.	The number of currently active conversational PDP contexts.	
NbrAct_PdpContext_Interact	Integer		Nullable, but ≥ 0 if present.	The number of currently active interactive PDP contexts.	
NbrAct_PdpContext_Streaming	Integer		Nullable, but ≥ 0 if present.	The number of currently active streaming PDP contexts.	
UL_PktForwarded_Background	Long		Nullable, but ≥ 0 if present.	The number of uplink background packets forwarded.	
UL_PktForwarded_Convers	Long		Nullable, but ≥ 0 if present.	The number of forwarded uplink conversational packets.	
UL_PktForwarded_Interactive	Long		Nullable, but ≥ 0 if present.	The number of uplink interactive packets forwarded.	
UL_PktForwarded_Streaming	Long		Nullable, but ≥ 0 if present.	The number of uplink streaming packets forwarded.	

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Field name	Type	Maximum length	Constraints	Field description	Notes
mslnit_Att_Mod_PdpContext	Long		Nullable, but ≥ 0 if present.	The number of attempted MS-initiated PDP Context Modifications procedures.	
Sgsn_Att_Mod_PdpContext	Long		Nullable, but ≥ 0 if present.	The number of attempted SGSN-Initiated PDP Context Modifications procedures.	
mslnit_Succ_Mod_PdpContext	Long		Nullable, but ≥ 0 if present.	The number of successfully handled MS-Initiated PDP context modifications procedures. These modifications are performed successfully when a Modify PDP Context Accept is sent to the MS.	
Sgsn_Succ_Mod_PdpContext	Long		Nullable, but ≥ 0 if present.	The 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.	
Nbr_Active_PDP_Direct_Tunnel	Integer		Nullable, but ≥ 0 if present.	The number of active PDP contexts approved for 3G Direct Tunnel. That is, a 3G Direct Tunnel is set up for these PDP contexts when they run payload.	
mslnit_Succ_ActPdp_Time_Conv	Long		Nullable, but ≥ 0 if present.	Maximum time (in milliseconds) it takes for the SGSN to establish a PDP context for Conversational Service	
mslnit_Succ_ActPdp_Time_Strm	Long		Nullable, but ≥ 0 if present.	Maximum time (in milliseconds) it takes for the SGSN to establish a PDP context for Streaming Service	
mslnit_Succ_ActPdp_Time_Intact	Long		Nullable, but ≥ 0 if present.	Maximum time (in milliseconds) takes for the SGSN to establish a PDP context for Interactive Service	
mslnit_Succ_ActPdp_Time_Bgrd	Long		Nullable, but ≥ 0 if present.	Maximum time (in milliseconds) it takes for the SGSN to establish a PDP context for Background Service	
mslnit_Succ_ActPdp_Time	Long		Nullable, but ≥ 0 if present.	Average MS initiated PDP context activation duration in ms	
sysuptime	Long		Nullable, but ≥ 0 if present.	The time since the Node was last re-initialized.	

Field name	Type	Maximum length	Constraints	Field description	Notes
Attempted_DNS_Query	Long		Nullable, but ≥ 0 if present.	The number of attempted DNS query procedures by SGSN	
Successful_DNS_Query	Long		Nullable, but ≥ 0 if present.	The number of Successful DNS query procedures by SGSN	
Total_cdr_generated	Long		Nullable, but ≥ 0 if present.	Number of Total CDRs generated (all types)	
S_cdr_generated	Long		Nullable, but ≥ 0 if present.	Number of S-CDRs generated	
S_cdr_generated_fail	Long		Nullable, but ≥ 0 if present.	Number of S-CDRs generated failures	
M_cdr_generated	Long		Nullable, but ≥ 0 if present.	Number of M-CDRs generated	
M_cdr_generated_fail	Long		Nullable, but ≥ 0 if present.	Number of M-CDRs generated failures	
S_smo_cdr_generated	Long		Nullable, but ≥ 0 if present.	Number of S-SMO-CDRs generated	
S_smo_cdr_generated_fail	Long		Nullable, but ≥ 0 if present.	Number of S-SMO-CDRs generated failures	
S_smt_cdr_generated	Long		Nullable, but ≥ 0 if present.	Number of S-SMT-CDRs generated	
S_smt_cdr_generated_fail	Long		Nullable, but ≥ 0 if present.	Number of S-SMT-CDRs generated failures	
home_subscribers	Integer		Nullable, but ≥ 0 if present.	Number of mean current visiting home subscribers located in the SGSN location register.	
national_subscribers	Integer		Nullable, but ≥ 0 if present.	Number of mean current visiting national subscribers located in the SGSN location register	
foreign_subscribers	Integer		Nullable, but ≥ 0 if present.	Number of mean current visiting foreign located in the SGSN location register	
CAMEL_subscribers	Integer		Nullable, but ≥ 0 if present.	Number of mean current CAMEL subscribers located in the SGSN location register	

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Field name	Type	Maximum length	Constraints	Field description	Notes
Critical_Alerts	Long		Nullable, but ≥ 0 if present.	Number of Critical Alerts	
Minor_Alerts	Long		Nullable, but ≥ 0 if present.	Number of Minor Alerts	
Major_Alerts	Long		Nullable, but ≥ 0 if present.	Number of Major Alerts	
Unresolved_Problems	Long		Nullable, but ≥ 0 if present.	Number Unresolved Problems	
Average_Duration_Unresolved_Problems	Integer		Nullable, but ≥ 0 if present.	Average Duration Unresolved Problems	
Max_Duration_of_Unresolved_Problems	Integer		Nullable, but ≥ 0 if present.	Maximum Duration of Unresolved Problems	
GTP_Out_data_pkt_Gn	Long		Nullable, but ≥ 0 if present.	Number of outgoing GTP data packets to GGSN (regardless of the GTP version used) on the Gn interface	
GTP_In_data_pkt_Gn	Long		Nullable, but ≥ 0 if present.	Number of incoming GTP data packets from GGSN (regardless of the GTP version used) on the Gn interface	
GTP_Out_pkt_Mo_Gn	Long		Nullable, but ≥ 0 if present.	This is not used and is for future use.	
GTP_In_pkt_Mo_Gn	Long		Nullable, but ≥ 0 if present.	This is not used and is for future use.	
GTP_MBMS_In_Data_Pkt_Gn	Long		Nullable, but ≥ 0 if present.	Number of GTP data PDUs for MBMS bearer contexts which have been accepted and processed by the GTP entity on the Gn interface.	
GTP_MBMS_Out_Data_Pkt_Iu	Long		Nullable, but ≥ 0 if present.	Number of MBMS bearer context GTP data PDUs which have been generated by the GTP-U protocol entity on the Iu interface.	
PMM_IDLE_User	Integer		Nullable, but ≥ 0 if present.	mean of the number of users in the "PMM-IDLE" status within the SGSN area.	

Field name	Type	Maximum length	Constraints	Field description	Notes
PMM_CONNECTED_User	Integer		Nullable, but ≥ 0 if present.	mean of the number of users in the "PMMCONNECTED" status within the SGSN area.	
Attach_Duration	Long		Nullable, but ≥ 0 if present.	sum of the total number seconds of 3G users ever attached	
Attached_2G_subscribers	Integer		Nullable, but ≥ 0 if present.	number of current simultaneous 2.5G attached subscribers within this SGSN area (Gauge)	
Attached_3G_subscribers	Integer		Nullable, but ≥ 0 if present.	number of current simultaneous 3G attached subscribers within this SGSN area (Gauge)	
PDP_activate_2G_subscribers	Integer		Nullable, but ≥ 0 if present.	number of current simultaneous 2.5G subscribers with activated PDP context (Gauge)	
PDP_activate_3G_subscribers	Integer		Nullable, but ≥ 0 if present.	number of current simultaneous 3G subscribers with activated PDP context (Gauge)	
Attach_User_Home_PLMN	Integer		Nullable, but ≥ 0 if present.	Total number of 3G attached subscribers of home PLMN in this SGSN.	
RANAP_assignment_attempt	Long		Nullable, but ≥ 0 if present.	Number of RANAP assignment attempt	
RANAP_assignment_success	Long		Nullable, but ≥ 0 if present.	Number of RANAP assignment success	
RANAP_assignment_fail	Long		Nullable, but ≥ 0 if present.	Number of RANAP assignment fail	
RANAP_modification_attempt	Long		Nullable, but ≥ 0 if present.	Number of RANAP modification attempt	
RANAP_modification_success	Long		Nullable, but ≥ 0 if present.	Number of RANAP modification success	
RANAP_modification_fail	Long		Nullable, but ≥ 0 if present.	Number of RANAP modification fail	
RANAP_release_attempt	Long		Nullable, but ≥ 0 if present.	Number of RANAP release attempt	
RANAP_release_success	Long		Nullable, but ≥ 0 if present.	Number of RANAP release success	

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Field name	Type	Maximum length	Constraints	Field description	Notes
Gn_uplink_traffic_Kbit	Long		Nullable, but ≥ 0 if present.	Gn uplink traffic in kilobit	
Gn_downlink_traffic_Kbit	Long		Nullable, but ≥ 0 if present.	Gn downlink traffic in kilobit	
Ge_uplink_traffic_Kbit	Long		Nullable, but ≥ 0 if present.	Ge uplink traffic in kilobit	
Ge_downlink_traffic_Kbit	Long		Nullable, but ≥ 0 if present.	Ge downlink traffic in kilobit	
Gp_uplink_traffic_Kbit	Long		Nullable, but ≥ 0 if present.	Gp uplink traffic in kilobit	
Gp_downlink_traffic_Kbit	Long		Nullable, but ≥ 0 if present.	Gp downlink traffic in kilobit	
luPS_uplink_traffic_Kbit	Long		Nullable, but ≥ 0 if present.	luPS uplink traffic in kilobit	
luPS_downlink_traffic_Kbit	Long		Nullable, but ≥ 0 if present.	luPS downlink traffic in kilobit	
Gs_uplink_traffic_Kbit	Long		Nullable, but ≥ 0 if present.	Gs uplink traffic in kilobit	
Gs_downlink_traffic_Kbit	Long		Nullable, but ≥ 0 if present.	Gs downlink traffic in kilobit	
Gr_uplink_traffic_Kbit	Long		Nullable, but ≥ 0 if present.	Gr uplink traffic in kilobit	
Gr_downlink_traffic_Kbit	Long		Nullable, but ≥ 0 if present.	Gr downlink traffic in kilobit	
Built_Capacity_2G_concurre_PDP	Integer		Nullable, but ≥ 0 if present.	Built Capacity as Sum of ALL Possible concurrent 2G PDP Contexts limited by license and hardware and software.	
CPUusagePeak	Long		Nullable, but ≥ 0 if present.	Peak CPU usage per Node	
inter_rau_request	Long		Nullable, but ≥ 0 if present.	Number of IU mode inter rau request	
inter_rau_success	Long		Nullable, but ≥ 0 if present.	Number of IU mode inter rau success	
inter_RAU_rej_Ge_fail	Long		Nullable, but ≥ 0 if present.	Number of inter_SGSN RAU reject (Ge fail)	
inter_RAU_rej_GPRSNotAllowPLMN	Long		Nullable, but ≥ 0 if present.	Number of inter_SGSN RAU reject (Gprs not allowed in PLMN)	

Field name	Type	Maximum length	Constraints	Field description	Notes
inter_RAU_rej_GPRSNotAllow	Long		Nullable, but ≥ 0 if present.	Number of inter_SGSN RAU reject (GPRS service not allowed)	
inter_RAU_rej_Gr_fail	Long		Nullable, but ≥ 0 if present.	Number of inter_SGSN RAU reject (Gr fail)	
inter_RAU_rej_illegal_ME	Long		Nullable, but ≥ 0 if present.	Number of inter_SGSN RAU reject (illegal ME)	
inter_RAU_rej_illegal_MS	Long		Nullable, but ≥ 0 if present.	Number of inter_SGSN RAU reject (illegal MS)	
inter_RAU_rej_Implicit_Detach	Long		Nullable, but ≥ 0 if present.	Number of inter_SGSN RAU reject (implicitly detached)	
inter_RAU_rej_LA_not_allowed	Long		Nullable, but ≥ 0 if present.	Number of inter_SGSN RAU reject (LA not allowed)	
inter_RAU_rej_MS_No_Identity	Long		Nullable, but ≥ 0 if present.	Number of inter_SGSN RAU reject (MS identity cannot be derived by network)	
inter_RAU_rej_no_suitable_cell	Long		Nullable, but ≥ 0 if present.	Number of inter_SGSN RAU reject (no suitable cell in LA)	
inter_RAU_rej_protocol_error	Long		Nullable, but ≥ 0 if present.	Number of inter_SGSN RAU reject (protocol error)	
inter_RAU_rej_roam_Not_Allow	Long		Nullable, but ≥ 0 if present.	Number of inter_SGSN RAU reject (roaming not allowed in LA)	
intra_rau_request	Long		Nullable, but ≥ 0 if present.	number of IU mode intra rau request	
intra_rau_success	Long		Nullable, but ≥ 0 if present.	number of IU mode intra rau success	
Intra_RAU_rej_Ge_fail	Long		Nullable, but ≥ 0 if present.	number of IU mode intra SGSN RAU reject due to Ge fail	
Intra_RAU_rej_LA_not_allowed	Long		Nullable, but ≥ 0 if present.	number of IU mode intra SGSN RAU reject due to LA not allowed	
Intra_RAU_rej_illegal_MS	Long		Nullable, but ≥ 0 if present.	number of IU mode intra SGSN RAU reject due to illegal MS	

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Field name	Type	Maximum length	Constraints	Field description	Notes
Intra_RAU_acc_LAUrejMSCunreach	Long		Nullable, but ≥ 0 if present.	number of IU mode intra SGSN RAU accept but LAU reject due to MSC unreachable	
Intra_RAU_rej_protocol_error	Long		Nullable, but ≥ 0 if present.	number of IU mode intra SGSN RAU reject due to protocol error	
Intra_RAU_rej_Implicit_Detach	Long		Nullable, but ≥ 0 if present.	number of IU mode intra SGSN RAU reject due to implicitly detached	
Intra_RAU_acc_LAUrej_VLRreject	Long		Nullable, but ≥ 0 if present.	number of IU mode intra SGSN RAU accept but LAU reject due to VLR reject	
Intra_RAU_reject_no_suita_cell	Long		Nullable, but ≥ 0 if present.	number of IU mode intra SGSN RAU reject due to no suitable cell in LA	
Intra_RAU_reject_Gr_fail	Long		Nullable, but ≥ 0 if present.	number of IU mode intra SGSN RAU reject due to Gr fail	
attach_fail_Ge_fail	Long		Nullable, but ≥ 0 if present.	number of IU mode attach reject due to Ge fail	
attach_fail_Gr_fail	Long		Nullable, but ≥ 0 if present.	number of IU mode attach reject due to Gr fail	
mslnit_pdpAct_fail_DNS_resolut	Long		Nullable, but ≥ 0 if present.	Number of IU mode activation failures due to the DNS resolution failure.	
mslnit_pdpAct_fail_QoS_negotia	Long		Nullable, but ≥ 0 if present.	Number of IU mode activation failures due to the QoS negotiation failure.	
mslnit_pdpAct_fail_RAB_assignm	Long		Nullable, but ≥ 0 if present.	Number of IU mode activation failures due to RAB assignment failure.	
mslnit_pdpAct_fail_Ge_fail	Long		Nullable, but ≥ 0 if present.	Number of IU mode activation failures due to SCP rejection	
mslnit_pdpAct_fail_servNoSup	Long		Nullable, but ≥ 0 if present.	Number of IU mode PDP context activation failures due to service unsupported	
mslnit_pdpAct_fail_servUnsubsr	Long		Nullable, but ≥ 0 if present.	Number of IU mode PDP context activation failures due to requested service not subscribed	

Field name	Type	Maximum length	Constraints	Field description	Notes
mslnit_pdpAct_fail_operat_barr	Long		Nullable, but ≥ 0 if present.	Number of IU mode PDP context activation failures due to Operator Determined Barring	
Built_Capacity_3G_concurre_PDP	Long		Nullable, but ≥ 0 if present.	Built Capacity as Sum of ALL Possible concurrent 3G PDP Contexts limited by license and hardware and software.	
Built_Capacity_3G_attach	Long		Nullable, but ≥ 0 if present.	Built Capacity as Sum of ALL Possible concurrent 3G Attached subscribers limited by license and hardware and software.	
Built_Capacity_2G_attach	Long		Nullable, but ≥ 0 if present.	Built Capacity as Sum of ALL Possible concurrent 2G Attached Subscribers limited by license and hardware and software.	
Built_Capacity_luPS_BW_Kbs	Long		Nullable, but ≥ 0 if present.	Built Capacity as Sum of ALL Possible luPS Interface bandwidth in Kbs limited by license and hardware and software.	
Built_Capacity_Gn_BW_Kbs	Long		Nullable, but ≥ 0 if present.	Built Capacity as Sum of ALL Possible Gn Interface bandwidth in Kbs limited by license and hardware and software.	
Built_Capacity_Ge_BW_Kbs	Long		Nullable, but ≥ 0 if present.	Built Capacity as Sum of ALL Possible Ge Interface bandwidth in Kbs limited by license and hardware and software.	
Built_Capacity_Gp_BW_Kbs	Long		Nullable, but ≥ 0 if present.	Built Capacity as Sum of ALL Possible Gp Interface bandwidth in Kbs limited by license and hardware and software.	
Built_Capacity_Gr_BW_Kbs	Long		Nullable, but ≥ 0 if present.	Built Capacity as Sum of ALL Possible Gr Interface bandwidth in Kbs limited by license and hardware and software.	
Built_Capacity_Gs_BW_Kbs	Long		Nullable, but ≥ 0 if present.	Built Capacity as Sum of ALL Possible Gs Interface bandwidth in Kbs limited by license and hardware and software.	

Field name	Type	Maximum length	Constraints	Field description	Notes
SGSN_OperationalDowntime	Long		Nullable, but ≥ 0 if present.	Operational downtime is a measure of the unavailability of UMTS service in a SGSN in this measurement period due to unplanned downtime. Operational downtime is the time (in seconds) during this measurement period in which UMTS service in the SGSN is unavailable due to unplanned (for example, malfunction) downtime.	
SGSN_AdministrativeDowntime	Long		Nullable, but ≥ 0 if present.	SGSN Administrative downtime is a measure of the unavailability of SGSN service in measurement period due to administrative downtime. A SGSN is administratively locked by a system administrator and is usually for planned maintenance	
UMTS_Operational_SGSN_Flag	Integer		0..1, Not Null, Integer	A flag to indicate if the SGSN is operational or not. Valid values are 0 = Non-Operational and 1 = Operational	

Example SGSN file:

```

SGSNName,SGSNServiceArea,SGSNPoolArea,PLMNArea,WCDMAServiceArea,Region,ps_paging_succe
sses,ps_paging_failures,attach_successes,Max_attach_time_delay,Average_attach_time_dela
y,attach_fail_illegal_ms,attach_fail_illegal_me,attach_fail_gprs_notalwd,attach_fail_gprsn
ongprs_notalwd,attach_fail_plmn_notalwd,attach_fail_notalwd_inLocA,attach_fail_roam_notal
wd_inLocA,attach_fail_gprs_notalwd_inplmn,attach_fail_no_suitable_cells,attach_fail_netwo
rk_failure,attach_fail_congestion,attach_fail_protocol_error,attach_fail_unspReason,subs_
attached_sample_count,subs_attached_sample_sum,msInit_detach_successes,msInit_detach_f
ailures,nwInit_detach_successes,nwInit_detach_failures,msInit_pdpAct_successes,msInit_
pdpAct_fail_insufResr,msInit_pdpAct_fail_noApn,msInit_pdpAct_fail_userAuth,msInit_pdpA
ct_fail_ggsnReject,msInit_pdpAct_fail_unspReject,msInit_pdpAct_fail_servOptNs,msInit_p
dpAct_fail_servOptOos,msInit_pdpAct_fail_nsapiInUse,msInit_pdpAct_fail_nwkFail,msInit_
pdpAct_fail_protocolErr,msInit_pdpAct_fail_unspReason,msInit_2pdpAct_successes,msInit_2
pdpAct_fail_insufResr,msInit_2pdpAct_fail_noApn,msInit_2pdpAct_fail_userAuth,msInit_2p
dpAct_fail_ggsnReject,msInit_2pdpAct_fail_unspReject,msInit_2pdpAct_fail_servOptNs,msI
nit_2pdpAct_fail_servOptOos,msInit_2pdpAct_fail_nsapiInUse,msInit_2pdpAct_fail_nwkFail
,msInit_2pdpAct_fail_TftSem,msInit_2pdpAct_fail_TftSyn,msInit_2pdpAct_fail_unknPdpCxt,
msInit_2pdpAct_fail_PktFiltSem,msInit_2pdpAct_fail_PktFiltSyn,msInit_2pdpAct_fail_TftN
otAct,msInit_2pdpAct_fail_protocolErr,msInit_2pdpAct_fail_unspReason,subs_with_pdpCxt_s
ample_count,subs_with_pdpCxt_sample_sum,msInit_pdpDeact_successes,msInit_pdpDeact_fail
ures,nwInit_pdpDeact_successes,nwInit_pdpDeact_failures,RAB_assign_successes_backgrnd,
RAB_assign_successes_converstn,RAB_assign_successes_streaming,RAB_assign_successes_int
eract,RAB_assign_failures_backgrnd,RAB_assign_failures_converstn,RAB_assign_failures_s
treaming,RAB_assign_failures_interact,msInit_RAB_release_successes,msInit_RAB_release_
failures,nwInit_RAB_release_successes,nwInit_RAB_release_failures,IRAT_handover_succes

```

ses,IRAT_handover_failures,attAuthInSgsn,succAuthInSgsn,CpuUsage,MemUsage_Max,MemUsage_Average,AttAct_PdpContext_Background,AttAct_PdpContext_Convers,AttAct_PdpContext_Interactive,AttAct_PdpContext_Streaming,SuccAct_PdpContext_Background,SuccAct_PdpContext_Convers,SuccAct_PdpContext_Interactive,SuccAct_PdpContext_Streaming,CurrentGuaranteedBitRate,DL_PktDiscarded_Background,DL_PktForwarded_Background,DL_PktDiscarded_Convers,DL_PktForwarded_Convers,DL_PktDiscarded_Interactive,DL_PktForwarded_Interactive,DL_PktDiscarded_Streaming,DL_PktForwarded_Streaming,GuaranteedBitRate_Downgrades,GuaranteedBitRate_Attempts,NbrAct_PdpContext_Background,NbrAct_PdpContext_Convers,NbrAct_PdpContext_Interactive,NbrAct_PdpContext_Streaming,UL_PktForwarded_Background,UL_PktForwarded_Convers,UL_PktForwarded_Interactive,UL_PktForwarded_Streaming,msInit_Att_Mod_PdpContext,Sgsn_Att_Mod_PdpContext,msInit_Succ_Mod_PdpContext,Sgsn_Succ_Mod_PdpContext,Nbr_Active_PDP_Direct_Tunnel,msInit_Succ_ActPdp_Time_Conv,msInit_Succ_ActPdp_Time_Strm,msInit_Succ_ActPdp_Time_Intact,msInit_Succ_ActPdp_Time_Bgnd,msInit_Succ_ActPdp_Time,sysuptime,Attempted_DNS_Query,Successful_DNS_Query,Total_cdr_generated,S_cdr_generated,S_cdr_generated_fail,M_cdr_generated,M_cdr_generated_fail,S_smo_cdr_generated,S_smo_cdr_generated_fail,S_smt_cdr_generated,S_smt_cdr_generated_fail,home_subscribers,national_subscribers,foreign_subscribers,CAMEL_subscribers,Critical_Alerts,Minor_Alerts,Major_Alerts,Unresolved_Problems,Average_Duration_Unresolved_Problems,Max_Duration_of_Unresolved_Problems,GTP_Out_data_pkt_Gn,GTP_In_data_pkt_Gn,GTP_Out_pkt_Mo_Gn,GTP_In_pkt_Mo_Gn,GTP_MBMS_In_Data_Pkt_Gn,GTP_MBMS_Out_Data_Pkt_Iu,PMM_IDLE_User,PMM_CONNECTED_User,Attach_Duration,Attached_2G_subscribers,Attached_3G_subscribers,PDP_activate_2G_subscribers,PDP_activate_3G_subscribers,Attach_User_Home_PLMN,RANAP_assignment_attempt,RANAP_assignment_success,RANAP_assignment_fail,RANAP_modification_attempt,RANAP_modification_success,RANAP_modification_fail,RANAP_release_attempt,RANAP_release_success,Gn_uplink_traffic_Kbit,Gn_downlink_traffic_Kbit,Ge_uplink_traffic_Kbit,Ge_downlink_traffic_Kbit,Gp_uplink_traffic_Kbit,Gp_downlink_traffic_Kbit,IuPS_uplink_traffic_Kbit,IuPS_downlink_traffic_Kbit,Gs_uplink_traffic_Kbit,Gs_downlink_traffic_Kbit,Gr_uplink_traffic_Kbit,Gr_downlink_traffic_Kbit,Built_Capacity_2G_concurre_PDP,CPUUsagePeak,inter_rau_request,inter_rau_success,inter_rau_rej_Ge_fail,inter_rau_rej_GPRSNotAllowPLMN,inter_rau_rej_GPRSNotAllow,inter_rau_rej_Gr_fail,inter_rau_rej_illegal_ME,inter_rau_rej_illegal_MS,inter_rau_rej_implicit_Detach,inter_rau_rej_LA_not_allowed,inter_rau_rej_MS_No_Identity,inter_rau_rej_no_suitable_cell,inter_rau_rej_protocol_error,inter_rau_rej_roam_Not_Allow,intra_rau_request,intra_rau_success,intra_rau_rej_Ge_fail,intra_rau_rej_LA_not_allowed,intra_rau_rej_illegal_MS,intra_rau_acc_LAurejMSCunreach,intra_rau_rej_protocol_error,intra_rau_rej_implicit_Detach,intra_rau_acc_LAurej_VLRreject,intra_rau_reject_no_suita_cell,intra_rau_reject_Gr_fail,attach_fail_Ge_fail,attach_fail_Gr_fail,msInit_pdpAct_fail_DNS_resolution,msInit_pdpAct_fail_QoS_negotia,msInit_pdpAct_fail_RAB_assignment,msInit_pdpAct_fail_Ge_fail,msInit_pdpAct_fail_servNoSup,msInit_pdpAct_fail_servUnsubsr,msInit_pdpAct_fail_operat_barr,Built_Capacity_3G_concurre_PDP,Built_Capacity_3G_attach,Built_Capacity_2G_attach,Built_Capacity_IuPS_BW_Kbs,Built_Capacity_Gn_BW_Kbs,Built_Capacity_Ge_BW_Kbs,Built_Capacity_Gp_BW_Kbs,Built_Capacity_Gr_BW_Kbs,Built_Capacity_Gs_BW_Kbs,SGSN_Operational_Downtime,SGSN_AdministrativeDowntime,UMTS_Operational_SGSN_Flag

SGSN_1,Service_Area_1,SGSN_Pool_Area_1,PLMN_Area1,WCDMA_Service_Area_1,19558,1956,17457,4697,242,7,2,7,8,2,6,10,5,6,32,1,8,39,1913,468685,15390,308,17424,1394,17926,23,30,28,29,15,32,25,47,21,14,44,7759,1,23,27,26,35,2,13,16,35,50,48,22,8,45,30,36,14,1275,436050,9304,46,5641,11,12301,9443,5953,2461,1230,472,119,172,11051,995,8846,442,40116,401,234,234,34,81,36,19908,4780,3755,8274,19510,4684,3680,8191,1354,3799,1388900,3044,115040,4025,205496,6487,189600,689,43253,24327,23184,32503,37429,56653,9145,4187,1849,900,294,891,146,46748,1722,1648,1816,1725,1652,1800000,2130,2401,5413,4431,56,6028,64,8179,110,1521,180,18762,5406,1210,2737,7,160,178,213,10,20,155691,174398,175420,96,16460,16904,28402,9590,187602,284020,76720,1125612,1704120,175561,177789,167510,10279,17846,17669,177,166048,92190,1500000,1455093,214286,207870,30612,29696,1079253,1158433,154179,165490,22026,23641,2000000,65,10368,5765,80,138,92,95,113,94,146,146,135,121,102,136,10385,6344,87,89,111,113,130,109,141,142,133,181,121,200,184,162,127,186,114,176,200000,2000000,2000000,1500000,1500000,220000,220000,220000,220000,78,79,1

Table 7: GGSN CSV data file format

Field name	Type	Maximum length	Constraints	Field description	Dimension
GGSNName	Varchar	128	not null, text string (up to 128 characters)	Textual name of GGSN.	
GGSNIPAddress	Varchar	64	Nullable, text string (up to 64 characters)	GGSN IP Address	
Region	Varchar	64	Nullable, text string (up to 64 characters)	Region Identifier - the location of the current GGSN	
APN	Varchar	128	Nullable, text string (up to 128 characters)	The access point name.	
pdpCreate_successes	Integer/Long		Nullable, but ≥ 0 if present. ; Integer/Long	Number of successful PDP Contexts creation attempts.	GGSN / APN
pdpCreate_failures	Integer/Long		Nullable, but ≥ 0 if present. ; Integer/Long	Number of unsuccessful PDP Contexts creation attempts.	GGSN / APN
mslnit_pdpDelete_successes	Integer/Long		Nullable, but ≥ 0 if present. ; Integer/Long	Number of successful mobile-initiated PDP context deletion attempts.	GGSN / APN
mslnit_pdpDelete_failures	Integer/Long		Nullable, but ≥ 0 if present. ; Integer/Long	Number of unsuccessful mobile-initiated PDP context deletion attempts.	GGSN / APN
nwlnit_pdpDelete_successes	Integer/Long		Nullable, but ≥ 0 if present. ; Integer/Long	Number of successful network-initiated PDP context deletion attempts.	GGSN / APN

Field name	Type	Maximum length	Constraints	Field description	Dimension
nwInit_pdpDelete_failures	Integer/Long		Nullable, but ≥ 0 if present. ; Integer/Long	Number of unsuccessful network-initiated PDP context deletion attempts.	GGSN / APN
active_pdpCxt_sample_count	Integer/Long		Nullable, but ≥ 0 if present. ; Integer/Long	Number of samples of number of active PDP contexts. For example, if the sample values were 9, 2, 7, 8, then this value would be 4 (for example, 4 samples).	GGSN / APN
active_pdpCxt_sample_sum	Integer/Long		Null if active_pdpCxt_sample_count is null. Null or 0 if active_pdpCxt_sample_count is 0. Otherwise ≥ 0 . ; Integer/Long	Sum of samples of number of active PDP contexts. For example, if the sample values were 9, 2, 7, 8, then this value would be the sum of those – for example, 26.	GGSN / APN
DL_user_data_volume	Integer/Long		Nullable, but ≥ 0 if present.	Downlink data volume (excluding retransmissions) in kilobits (kb)	GGSN / APN
DL_user_data_transmit_time	Integer/Long		Nullable, but ≥ 0 if present.	The time in seconds that data was being actively transmitted downlink.	GGSN / APN
UL_user_data_volume	Integer/Long		Nullable, but ≥ 0 if present.	Uplink data volume (excluding retransmissions) in kilobits (kb)	GGSN / APN

Field name	Type	Maximum length	Constraints	Field description	Dimension
UL_user_data_transmit_time	Integer/Long		Nullable, but ≥ 0 if present.	The time in seconds that data was being actively transmitted uplink.	GGSN / APN
Active_PDP_Background	Integer/Long		Nullable, but ≥ 0 if present.	The number of active PDP contexts per Traffic Class Background	GGSN / APN
Active_PDP_Conversational	Integer/Long		Nullable, but ≥ 0 if present.	The number of active PDP contexts per Traffic Class Conversational	GGSN / APN
Active_PDP_Interactive	Integer/Long		Nullable, but ≥ 0 if present.	The number of active PDP contexts per Traffic Class Interactive	GGSN / APN
Active_PDP_Streaming	Integer/Long		Nullable, but ≥ 0 if present.	The number of active PDP contexts per Traffic Class Streaming	GGSN / APN
Packet_Dropped_Downlink	Integer/Long		Nullable, but ≥ 0 if present.	Downlink traffic Dropped packets	GGSN / APN
Packet_Downlink	Integer/Long		Nullable, but ≥ 0 if present.	Downlink traffic packets	GGSN / APN
Packet_Dropped_Uplink	Integer/Long		Nullable, but ≥ 0 if present.	Uplink traffic Dropped packets	GGSN / APN
Packet_Uplink	Integer/Long		Nullable, but ≥ 0 if present.	Uplink traffic packets	GGSN / APN
Attempts_PDP_Deactivation	Integer/Long		Nullable, but ≥ 0 if present.	PDP Context Deactivation Requests	GGSN / APN
Successful_PDP_Deactivation	Integer/Long		Nullable, but ≥ 0 if present.	PDP Context Deactivation Success	GGSN / APN

Field name	Type	Maximum length	Constraints	Field description	Dimension
sysuptime	Integer/Long		Nullable, but ≥ 0 if present.	The time since the Node was last re-initialized in seconds (GGSN)	GGSN
CpuUsage_Average	Integer/Long		Nullable, but ≥ 0 if present.	Average CPU Utilization per Node (GGSN)	GGSN
MemUsage_Average	Integer/Long		Nullable, but ≥ 0 if present.	Average Memory Usage per Node (GGSN)	GGSN
MemUsage_Maximum	Integer/Long		Nullable, but ≥ 0 if present.	maximum Memory Usage per Node (GGSN)	GGSN
Attempt_dhcpaddress_allocation	Integer/Long		Nullable, but ≥ 0 if present.	Number of attempts to obtain the IP addresses from the DHCP server.	GGSN / APN
Success_dhcpaddress_allocation	Integer/Long		Nullable, but ≥ 0 if present.	Number of successful attempts to obtain the IP addresses from the DHCP server.	GGSN / APN
Failed_radius_accounting	Integer/Long		Nullable, but ≥ 0 if present.	Number of failed RADIUS Accounting procedures.	GGSN / APN
Failed_radius_authentication	Integer/Long		Nullable, but ≥ 0 if present.	Number of failed RADIUS Authentication procedures.	GGSN / APN
Success_radius_accounting	Integer/Long		Nullable, but ≥ 0 if present.	Number of successful RADIUS Accounting procedures.	GGSN / APN

Field name	Type	Maximum length	Constraints	Field description	Dimension
Success_radius_authentication	Integer/Long		Nullable, but ≥ 0 if present.	Number of successful RADIUS Authentication procedures.	GGSN / APN
Dynamic_IP_address_reserved	Integer/Long		Nullable, but ≥ 0 if present.	The current number of reserved dynamic IP addresses	GGSN / APN
Dynamic_IP_address_used	Integer/Long		Nullable, but ≥ 0 if present.	The current number of Average used dynamic IP addresses	GGSN / APN
Static_IP_address_reserved	Integer/Long		Nullable, but ≥ 0 if present.	The current number of reserved Static IP addresses	GGSN / APN
Static_IP_address_used	Integer/Long		Nullable, but ≥ 0 if present.	The current number of Average used Static IP addresses	GGSN / APN
Dwngr_Pdps_DueTo_BitRate	Integer/Long		Nullable, but ≥ 0 if present.	The number of downgraded PDP contexts because the BitRate Requested was not available	GGSN / APN
Dwngr_Pdps_DueTo_TrClass	Integer/Long		Nullable, but ≥ 0 if present.	The number of downgraded PDP contexts because of the Traffic class requested was not available	GGSN / APN

Field name	Type	Maximum length	Constraints	Field description	Dimension
Dwngr_Pdps_DueTo_Others	Integer/Long		Nullable, but ≥ 0 if present.	The number of downgraded PDP contexts because of any other reason than Bit Rate and Traffic Class requested was not available	GGSN / APN
Current_active_PDP_contexts	Integer/Long		Nullable, but ≥ 0 if present.	Current activated PDP contexts, Adds up with Create and down with Delete PDP Context Response	GGSN / APN
Max_simult_active_PDP_contexts	Integer/Long		Nullable, but ≥ 0 if present.	Maximum simultaneously activated PDP contexts, this is the Max of All Sampling periods	GGSN / APN
Current_activated_prepaid_user	Integer/Long		Nullable, but ≥ 0 if present.	currently activated prepaid users	GGSN / APN
PDPactFail_activ_no_TFTcontext	Integer/Long		Nullable, but ≥ 0 if present.	PDP context act. failed - active no-TFT context	GGSN / APN
PDPactFail_auth_failure	Integer/Long		Nullable, but ≥ 0 if present.	PDP context act. failed - auth. failure	GGSN / APN
PDPactFail_filter_semant_error	Integer/Long		Nullable, but ≥ 0 if present.	PDP context act. failed - filter semantic error	GGSN / APN
PDPactFail_filter_syntax_error	Integer/Long		Nullable, but ≥ 0 if present.	PDP context act. failed - filter syntax error	GGSN / APN
PDPactFail_incorr_mandatory_IE	Integer/Long		Nullable, but ≥ 0 if present.	PDP context act. failed - incorrect mandatory IE	GGSN / APN

Field name	Type	Maximum length	Constraints	Field description	Dimension
PDPactFail_incorr_optional_IE	Integer/Long		Nullable, but ≥ 0 if present.	PDP context act. failed - incorrect optional IE	GGSN / APN
PDPactFail_invalid_mess_format	Integer/Long		Nullable, but ≥ 0 if present.	PDP context act. failed - invalid message format	GGSN / APN
PDPactFail_missing_mandator_IE	Integer/Long		Nullable, but ≥ 0 if present.	PDP context act. failed - missing mandatory IE	GGSN / APN
PDPactFail_nodynamc_PDPaddress	Integer/Long		Nullable, but ≥ 0 if present.	PDP context act. failed - no dynamic PDP address	GGSN / APN
PDPactFail_no_memory	Integer/Long		Nullable, but ≥ 0 if present.	PDP context act. failed - no memory	GGSN / APN
PDPactFail_no_resource	Integer/Long		Nullable, but ≥ 0 if present.	PDP context act. failed - no resource	GGSN / APN
PDPactFail_system_fault	Integer/Long		Nullable, but ≥ 0 if present.	PDP context act. failed - system fault	GGSN / APN
PDPactFail_TFT_semantic_error	Integer/Long		Nullable, but ≥ 0 if present.	PDP context act. failed - TFT semantic error	GGSN / APN
PDPactFail_TFT_syntax_error	Integer/Long		Nullable, but ≥ 0 if present.	PDP context act. failed - TFT syntax error	GGSN / APN
PDPactFail_unknown_addresstype	Integer/Long		Nullable, but ≥ 0 if present.	PDP context act. failed - unknown address or type	GGSN / APN
PDPactFail_unknown_APN	Integer/Long		Nullable, but ≥ 0 if present.	PDP context act. failed - unknown APN	GGSN / APN
PDPactFail_Others	Integer/Long		Nullable, but ≥ 0 if present.	PDP context act. failed - Others	GGSN / APN

Field name	Type	Maximum length	Constraints	Field description	Dimension
Gn_uplink_traffic_Kbit	Integer/Long		Nullable, but ≥ 0 if present.	Gn uplink traffic in Kbit (GGSN)	GGSN
Gn_downlink_traffic_Kbit	Integer/Long		Nullable, but ≥ 0 if present.	Gn downlink traffic in Kbit (GGSN)	GGSN
Gi_uplink_traffic_Kbit	Integer/Long		Nullable, but ≥ 0 if present.	Gi uplink traffic in Kbit	GGSN / APN
Gi_downlink_traffic_Kbit	Integer/Long		Nullable, but ≥ 0 if present.	Gi downlink traffic in Kbit	GGSN / APN
Built_Capacity_concurrent_PDP	Integer/Long		Nullable, but ≥ 0 if present.	Built Capacity as Sum of ALL concurrent PDP Contexts. (GGSN)	GGSN
Built_Capacity_Gi_BW_Kbit	Integer/Long		Nullable, but ≥ 0 if present.	Built Capacity is the Sum of all Gi Interface bandwidth (Kbits) (GGSN)	GGSN
Built_Capacity_Gn_BW_Kbit	Integer/Long		Nullable, but ≥ 0 if present.	Built Capacity is the Sum of all Gn Interface bandwidth (Kbits) (GGSN)	GGSN
CpuUsage_Max	Integer/Long		Nullable, but ≥ 0 if present.	Peak CPU usage (GGSN)	GGSN
Core_Operational_GGSN_Flag	Integer		Not nullable. 0 or 1.	This is a boolean flag indicating whether the GGSN is operational (value = 1) or not (value = 0)	GGSN

Field name	Type	Maximum length	Constraints	Field description	Dimension
GGSN_OperationalDowntime	Integer/Long		Nullable, but ≥ 0 if present.	Operational downtime is a measure of the unavailability of UMTS service in a GGSN in this measurement period due to unplanned downtime. Operational downtime is the time (in seconds) during this measurement period in which UMTS service in the GGSN is unavailable due to unplanned (for example, malfunction) downtime.	GGSN
GGSN_AdministrativeDowntime	Integer/Long		Nullable, but ≥ 0 if present.	GGSN Administrative downtime is a measure of the unavailability of GGSN service in measurement period due to administrative downtime. A GGSN is administratively locked by a system administrator and is usually for planned maintenance (GGSN)	GGSN

Example GGSN file:

```

GGSNName,GGSNIPAddress,Region,APN,pdpCreate_successes,pdpCreate_failures,msInit_pdpDelete_successes,msInit_pdpDelete_failures,nwInit_pdpDelete_successes,nwInit_pdpDelete_failures,active_pdpCxt_sample_count,active_pdpCxt_sample_sum,DL_user_data_volume,DL_user_data_transmit_time,UL_user_data_volume,UL_user_data_transmit_time,Active_PDP_Background,Active_PDP_Conversational,Active_PDP_Interactive,Active_PDP_Streaming,Packet_Dropped_Downlink,Packet_Downlink,Packet_Dropped_Uplink,Packet_Uplink,Attempts_PDP_Deactivation,Successful_PDP_Deactivation,sysuptime,CpuUsage_Average,MemUsage_Average,MemUsage_Maximum,Attempt_dhcpaddress_allocation,Success_dhcpaddress_allocation,Failed_radius_accounting,Failed_radius_authentication,Success_radius_accounting,Success_radius_authentication,Dynamic_IP_address_reserved,Dynamic_IP_address_used,Static_IP_address_reserved,Static_IP_address_used,Dwngr_Pdps_DueTo_BitRate,Dwngr_Pdps_DueTo_TrClass,Dwngr_Pdps_DueTo_Others,Current_active_PDP_contexts,Max_simult_active_PDP_contexts,Current_activated_prepaid_user,PDPactFail_activ_no_TFTcontext,PDPactFail_auth_failure,PDPactFail_filter_semant_error,PDPactFail_filter_syntax_error,PDPactFail_incorr_mandatory_IE,PDPactFail_incorr_optional_IE,PDPactFail_invalid_mess_format,PDPactFail_missing_mandator_IE,PDPactFail_nodynamc_PDPaddress,PDPactFail_no_memory,PDPactFail_no_resource,PDPactFail_syssem_fault,PDPactFail_TFT_semantic_error,PDPactFail_TFT_syntax_error,PDPactFail_unknown_addresstype,PDPactFail_unknown_APN,PDPactFail_Others,Gn_uplink_traffic_Kbit,Gn_downlink_traffic_Kbit,Gi_uplink_traffic_Kbit,Gi_downlink_traffic_Kbit,Built_Capacity_concurrent_PDP,Built_Capacity_Gi_BW_Kbit,Built_Capacity_Gn_BW_Kbit,CpuUsage_Max,Core_Operational_GGSN_Flag,GGSN_OperationalDowntime,GGSN_AdministrativeDowntime

GGSN1,192.168.2.1,Region_1,se.lasta.com,16791,205,8399,12,8392,134,15839,1684269,108631,1662,120399,1775,156691,332525,257789,298631,9972,1495790,10555,1372107,12941,12687,1800000,55,72,57,9350,7314,19,5499,6022,5832,511136,518221,519749,506869,608,544,458,1500727,200000,764756,126,179,66,80,175,101,106,65,66,135,140,161,105,146,111,126,303,2337673240,2729476533,1906783180,2206588527,2000000,1500000,1500000,33,1,2,2

```

2.3.2 PM Data file granularity

Each CSV data file contains its own measurement granularity period. The default granularity period is 1800 seconds or 30 minutes and is fixed per module.

- **GGSN/APN CSV data file:** Each row in this CSV file corresponds to a unique combination of GGSN and access point name (APN) names. The APN name is nullable. Any row where the APN is null contains data for the GGSN named in the row. Any row where the APN name is not null contains data for the GGSN-APN combination shown in the row. The GGSN name is not allowed to be null.

For metrics on the GGSN dimension only (see table 7), the same value must be repeated for all instances of that GGSN.

- **SGSN CSV data file:** Each row in this CSV file contains data relating to the single SGSN named in the row. There is only one entry per SGSN in each file.
- **RNC CSV data file:** Each row in this CSV file contains data relating to the single RNC named in the row. There is only one entry per RNC in each file.
- **Node B CSV data file:** Each row in this CSV file contains data relating to the single Node B named in the row. There is only one entry per Node B in each file.
- **UTRAN CSV data file:** Each row in this CSV file contains data relating to the single CELL named in the row.

2.4 Custom resource mapping

Tivoli Netcool Service Quality Manager uses mapping files to resolve some fields and keys from the input data files. For instance, the input file can contain a cell location field which the map file resolves to a CellArea to provide additional improvement.

This section describes the format of the map files.

Table 8: Custom mapping files

Data type	ASCII files; comma-separated values; header row
Default location	<code>\${SAVARDIR}/adapter/mappings/resources/</code>
File name syntax	<code>sqm_hspa_utran_cellarea.map</code> <code>sqm_hspa_utran_location.map</code>

The map file is reloaded at the beginning of every adapter data interval. By using map-file reloading, the map file can be updated at any time.

Two mapping files are required for the UTRAN adapter. Details of these files are:

1. Maps CELL identifier to a CellArea (group of cells).
2. Maps CELL identifier to a Market (third level of the Tivoli Netcool Service Quality Manager LOCATION hierarchy resource type).

2.4.1 CELL to CellArea CRM mapping file

Table 9: CELL to CellArea CRM mapping file details

Field name	Description	Constraints
CGI	<p>Typically this will be either the SAI or the CGI of the cell serving the subscriber.</p> <p>The format of the SAI is MCC-MNC-LAC-SAC where: MCC is the mobile country code (3 decimal digits). MNC is the mobile network code (2 or 3 decimal digits). LAC is the location area code (4 hexadecimal digits) SAC is the service area code (4 hexadecimal digits)</p> <p>The format of the CGI is MCC-MNC-LAC-CI where: MCC is the mobile country code. MNC is the mobile network code. LAC is the location area code CI is the cell identifier</p>	MCC = 3 decimal digits MNC = 2 or 3 decimal digits LAC = 4 hexadecimal digits SAC = 4 hexadecimal digits CGI = 4 hexadecimal digits
CellArea	The name of the SQM CellArea. This is an arbitrary grouping of Cells obtained usually from a CRM system. It can be (a) groups of Cells from a marketing point of view or possibly (b) a group of Cells under the control of a BSC/RNC.	Text String (64 characters)

Example

The following is example data showing fields for the custom resource mapping:

```
999-12-6CF4-0228,CellArea3
999-12-6CF5-0229,CellArea4
999-12-6CF6-022A,CellArea5
```

2.4.2 CELL to Market CRM mapping file**Table 10: CELL to Market CRM mapping file details**

Field Name	Description	Constraints
CGI	<p>Typically this will be either the SAI or the CGI of the cell serving the subscriber.</p> <p>The format of the SAI is MCC-MNC-LAC-SAC where: MCC is the mobile country code (3 decimal digits). MNC is the mobile network code (2 or 3 decimal digits). LAC is the location area code (4 hexadecimal digits) SAC is the service area code (4 hexadecimal digits)</p> <p>The format of the CGI is MCC-MNC-LAC-CI where: MCC is the mobile country code. MNC is the mobile network code. LAC is the location area code CI is the cell identifier</p>	MCC = 3 decimal digits MNC = 2 or 3 decimal digits LAC = 4 hexadecimal digits SAC = 4 hexadecimal digits CGI = 4 hexadecimal digits
Market	The MARKET of the SQM LOCATION hierarchy to which this cell belongs	Text String (64 characters)

Example

The following is example data showing fields for the custom resource mapping:

```
999-12-6CF4-0228,Market2
999-12-6CF5-0229,Market3
999-12-6CF6-022A,Market4
```


3 Enumerations and definitions

This chapter defines the enumerations to be used by the mediation when creating the data files for the adapter.

3.1.1 Source vendor

The data file must use the following table to identify the SourceVendor.

Table 11: Source vendor enumerations

Column	Value	Description
SourceVendor	0	Ericsson
	1	Alcatel Lucent
	2	Nortel
	3	Nokia
	4	Huawei
	5	Motorola
	6	Juniper
	7	UT star
	8	NSN

4 Service provisioning

This chapter describes the steps you take to provision the customer-specific portions of the service module. It also covers provisioning examples for the service module and customer provisioning for the Tivoli Netcool Service Quality Manager service modules.

To install a package, invoke the `package_mgmt` script with the `-i` flag followed by the package name. Similarly to clean a package, invoke the `package_mgmt` script with the `-c` flag followed by the package name.

For a normal installation, if an element already exists, the installation fails and an error file is generated for that package. By using the force option (pass a `-f` flag at the end of the command), the operation does not fail if an element already exists. Always use the `-f` option for service module installations if the service module contains elements that have already been provisioned elsewhere.

For more information on provisioning, see *Appendix A: Provisioning*.

4.1 Resource types

This section lists the resource types that must be provisioned for this service module.

Table 12: Tivoli Netcool Service Quality Manager Module for HSPA PM Service resource types

Resource type key			
Resource type name	Roll up level	Auto-discovery	Notes
CellArea	CellArea	No	CSV field CGI For each Physical CellArea in the Network that is required to be monitored provision the corresponding CellArea ResourceType Instance.
	AllCellAreas	No	Indicates aggregation of metrics across all CellAreas
UTRAN	Node B	No	CSV field NODEB Node B has the same function of BTS in UMTS and HSPA Network Node B belongs to Hierarchical Resource Type used to model the UTRAN

Resource type key			
Resource type name	Roll up level	Auto-discovery	Notes
	H_RNC	No	CSV field RNC Radio Network Controller - Used in UMTS and HSPA as the controlling station for multiple Node-Bs RNC belongs to Hierarchical Resource Type used to model the UTRAN (H_RNC and Node B)
	AllUTRAN	No	Indicates aggregation of metrics across all UTRANs
SGSN	SGSN	No	CSV field SGSNNAME For each Physical SGSN in the Network that is required to be monitored provision the corresponding SGSN ResourceType Instance.
	AllSGSNs	No	Indicates aggregation of metrics across all SGSNs
GGSN	ggsn	No	CSV field GGSNNAME Gateway GPRS Support Node platform, For each Physical GGSN in the Network that is required to be monitored provision the corresponding GGSN ResourceType Instance.
	AllGGSNs	No	Indicates aggregation of metrics across all GGSNs
APN	APN	No	CSV field APN For each Physical APN in the Network that is required to be monitored provision the corresponding APN ResourceType Instance.
	AllAPNs	No	Indicates aggregation of metrics across all APNs

4.2 Provisioning examples

4.2.1 Cell Area

```
<resource description="UTRAN PM Cell Area 0">
  <key name="UTRAN_PM_CELL_AREA_0" resourceType="CellArea"/>
</resource>
```

4.2.2 Node B

```
<resource resourceFilterType="*" timezone="">
  <key name="Sample Node B" resourceType="UTRAN" level="NodeB"/>
  <hierarchy>
    <parent name="Sample RNC"/>
  </hierarchy>
</resource>
```

4.2.3 RNC

```
<resource resourceFilterType="*" timezone="">
  <key name="Sample RNC" resourceType="UTRAN" level="H_RNC"/>
  <hierarchy/>
</resource>
```

4.2.4 SGSN

```
<resource>
  <key name="Sample SGSN" resourceType="SGSN" level="SGSN" />
  <hierarchy />
</resource>
```

4.2.5 GGSN

```
<resource description="Sample GGSN">
  <key name="Sample GGSN" resourceType="GGSN" />
</resource>
```

4.2.6 APN

```
<resource description="Sample APN">
  <key name="Sample APN" resourceType="APN" />
</resource>
```


Appendix A: Provisioning

Provisioning is performed using the `package_mgmt` interface. This script supports the following commands:

```
Usage:
    package_mgmt {i|c} [options]
Commands:
    install      : package_mgmt -i package_name [-f] [-e entity_key]
    clean       : package_mgmt -c package_name [-f] [-e entity_key]
Options:
    -f           : force install or clean
```

The provisioning files for the service module are located in the `$WMCROOT/packages` directory. Do not modify existing packages. Create a new package in this directory instead. This package consists of a `package.properties` file and several XML provisioning files for the entities to be provisioned. These files are located in the `admin/provision` directory underneath the main package directory, for example, `$WMCROOT/packages/sqm_hspa_ggsn_pm_1.1/admin/provision`.

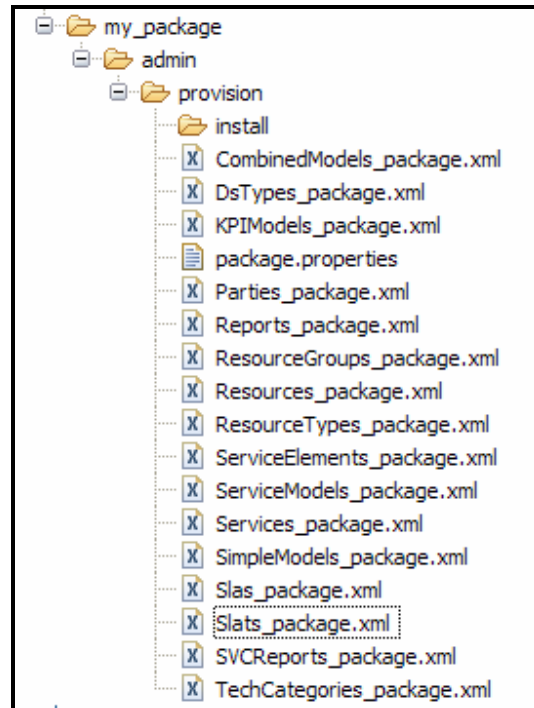


Figure 1: Package directory structure

The `package.properties` file contains key and value pairs that map between a provisioning entity such as resource types and a comma-separated list of XML provisioning files for that entity type. The valid entity type keys are listed in the following table.

```
resourceType=ResourceTypes_package.xml
combinedKQIModel=CombinedModels_package.xml
simpleKQIModel=SimpleModels_package.xml
serviceModel=ServiceModels_package.xml
serviceElement=ServiceElements_package.xml
SLAT=Slats_package.xml
SLA=Slas_package.xml
```

Table 13: Provisioning entity keys

Key	Entity type
combinedKQIModel	Combined key quality indicator (KQI) model
dataSourceType	Data source type
kpiModel	Key performance indicator (KPI) model
party	Party
report	Report

resource	Resource
resourceGroup	Resource group
resourceType	Resource type
service	Service
serviceElement	Service element
serviceModel	Service model
simpleKQIModel	Simple KQI model
SLA	Service-level agreement (SLA)
SLAT	Service-level agreement threshold (SLAT)
customer	Customer
customerGroup	Customer group

For more information on provisioning, see the *IBM Tivoli Netcool Service Quality Manager Provisioning Service SI Guide*.

Appendix B: Data field types

The following table lists the data field types and their descriptions:

Table 14: Data field type descriptions

<i>Data field type</i>	<i>Description</i>
Integer	Number with no decimal fraction.
Long	Number with no decimal fraction.
Float	Real number with decimal fraction.
Double	Real number with decimal fraction.
Varchar	Variable length character string, consisting of letters and numbers.

Appendix C: Product acronyms

Table 15: Description of product acronyms

<i>Acronym</i>	<i>Description</i>
CDR	Call Data Record
CPU	Central Processing Unit
CR	Change Request
CRM	Custom Resource Mapping
CS	Circuit Switched
CSV	Comma Separated Values
DBCS	Double-Byte Character Set
FTP	File Transfer Protocol
GB	Gigabyte
GGSN	Gateway GPRS Support Node
GOM	Global Object Model
GPRS	General Packet Radio Service
GPS	Global Positioning System
GSM	Global Standard for Mobile (worldwide 2G radio standard)
GTP	GPRS Tunneling Protocol
GUI	Graphical User Interface
HSDPA	High Speed Downlink Packet Access
HSPA	High Speed Packet Access
HSUPA	High Speed Uplink Packet Access
IBM	International Business Machines
IMSI	International Mobile Subscriber Identity
IO	Input Output
IP	Internet Protocol
IT	Information Technology
Iu	Interface between RNC and Core Network

Acronym	Description
Iub	Interface between RNC and Node B
Iur	Interface between two RNCs
KPI	Key Performance
KQI	Key Quality Indicator
Node B	A term used in UMTS to denote the BTS
PDF	Portable Document Format
PDP	Packet Data Protocol
PMR	Product Management Request
POD	Plain Old Documentation
PS	Packet Switched
RAB	Radio Access Bearer
RAN	Radio Access Network
RAU	Routing Area Update
RNC	Radio Network Controller
RRC	Radio Resource Control
SCP	Secure Copy
SFTP	Secure File Transfer Protocol
SGSN	Serving GPRS Support Node
SLA	Service-Level Agreement
SQL	Structured Query Language
UE	User Equipment
UMTS	Universal Mobile Telecommunications Systems
UTC	Universal Time Coordinated
UTRAN	UMTS Terrestrial Radio Access Network
UUCP	UNIX-To-UNIX Copy Protocol
XML	Extensible Markup Language

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