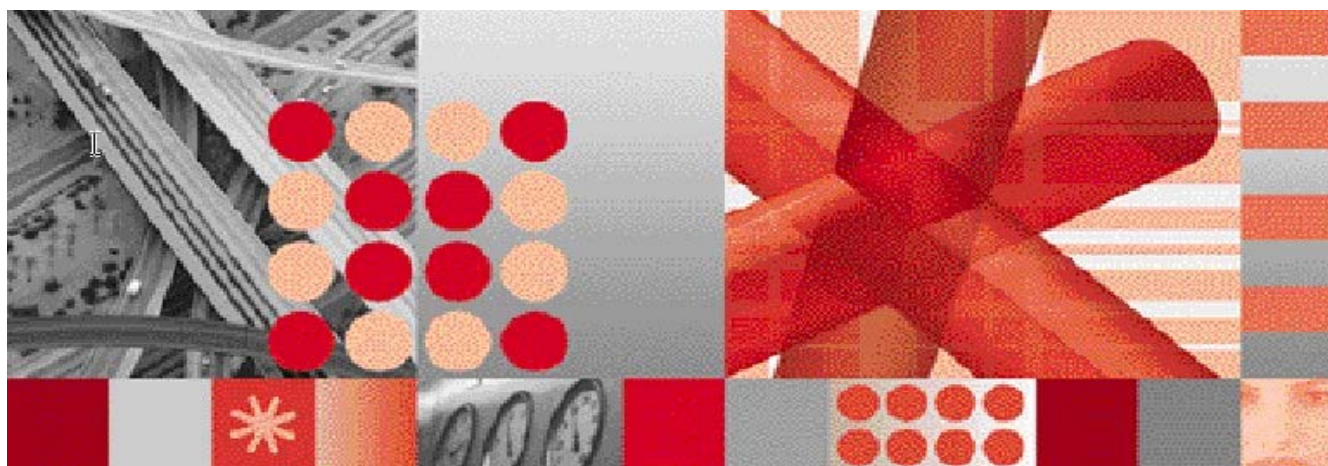**Tivoli.** **Netcool Service Quality Manager**
GPRS RAN PM Service Solution

Version 1.5

IBM

Interface Control Guide

Note: Before using this information and the product it supports, read the information in "Notices" on page 23.

This edition applies to version 1, release 5 of the IBM Tivoli Netcool Service Quality Manager - GPRS RAN PM service solution and to all subsequent releases and modifications until otherwise indicated in new editions.

Table of contents

1 About this documentation

The *IBM Tivoli Netcool Service Quality Manager GPRS RAN PM Service Solution Interface Control Guide* details the GPRS (General Packet Radio Service) RAN (Radio Access Network) PM (Performance Monitor) service solution input interface, that is, the CSV (Comma Separated Value) input files in terms of:

- File naming conventions

- Data file format, structure, and semantics

- Supported delivery and collection mechanism

- Data file input and output directory

- File granularity

- File frequency

- Maximum latency tolerated

1.1 Audience

This guide is intended for parties wishing to provide mediated data to the IBM® Tivoli® Netcool® Service Quality Manager GPRS RAN PM service solution.

1.2 Required skills and knowledge

This guide assumes you are familiar with:

- General IT (Information Technology) principles

- IP (Internet Protocol) networking

- UNIX® operating systems

- GPRS service solution

1.3   Guide conventions

The following command prompts can be seen throughout this guide where the user has to enter commands at the command line:

- # (hash): This prompt is displayed if the user is logged in as user root.

- $ (dollar): This prompt is displayed if the user is logged in as either the saserver or oracle user.

Please note the above prompts are not part of commands. All commands must be entered after these prompts.

This guide uses the typographical conventions shown in the following table:

Table 1: General guide conventions

Format	*Examples*	*Description*
ALL UPPERCASE	GPS NULL MYWEBSERVER	Acronyms, device names, logical operators, registry keys, and some data structures.
Link	See www.ibm.com	For links within a document or to the Internet.
Bold	**Note**: The busy hour determiner is...	Heading text for Notes, Tips, and Warnings.
SMALL CAPS	The STORED SQL dialog box... ...click VIEW... In the main GUI window, select the FILE menu, point to NEW, and then select TRAFFIC TEMPLATE.	Any text that appears on the GUI.
Italic	A *busy hour* is... A web server *must* be installed... See the *User Guide*	New terms, emphasis, and book titles.

Monospace	`./wminstall`
	`$ cd /cdrom/cdrom0`
	`/xml/dict`
	`addmsc.sh`
	`core.spec`
	`Type OK to continue.`
		Code text, command line text, paths, scripts, and file names.
		Text written in the body of a paragraph that the user is expected to enter.

`Monospace Bold`	**`[root] # pkginfo | grep -i perl`** system Perl5 On-Line Manual Pages system Perl 5.005_03 (POD Documentation) system Perl 5.005_03	For contrast in a code example to show lines the user is expected to enter.
`<Monospace italics>`	`#` cd *`<oracle_setup>`*	Used in code examples: command-line variables that you replace with a real name or value. These are always marked with arrow brackets.
[square bracket]	log-archiver.sh [-i][-w][-t]	Used in code examples: indicates options.

1.4 Guide structure

This guide is organized into the following chapters:

Table 2: Guide structure

Chapter	*Description*
Interface specifications	Provides interface specification and file naming conventions
Enumerations and definitions	Describes the call types
Glossary	Glossary

1.5   User publications

The following publications are available:

- Tivoli Netcool Service Quality Manager version core library

- Tivoli Netcool Service Quality Manager Module for GPRS RAN PM Service library

1.5.1   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*

  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*

  Describes how to install the Tivoli Netcool Service Quality Manager server system on Solaris systems.

- *IBM Tivoli Netcool Service Quality Manager Client Installation Guide*

  Describes how to install the Tivoli Netcool Service Quality Manager client.

- *IBM Tivoli Netcool Service Quality Manager Upgrade Guide*

  Details how to upgrade from one Tivoli Netcool Service Quality Manager version to another.

- *IBM Tivoli Netcool Service Quality Manager AIX System Administration Guide*

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

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

- *IBM Tivoli Netcool Service Quality Manager Solaris System Administration Guide*

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

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

- *IBM Tivoli Netcool Service Quality Manager Provisioning Service SI Guide*

  Provides information about provisioning the Tivoli Netcool Service Quality Manager system.

- *IBM Tivoli Netcool Service Quality Manager Customer Experience Manager Provisioning Guide*

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

- *IBM Tivoli Netcool Service Quality Manager Customer Experience Manager Monitoring Guide*

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*

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*

Describes SLA provisioning (parties, SLAs, and SLA templates applications) and 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*

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*

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*

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

1.5.2 IBM Tivoli Netcool Service Quality Manager Module for GPRS RAN PM Service library

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

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

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

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

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

Provides details about the Tivoli Netcool Service Quality Manager Module for *GPRS RAN PM* Service input interface.

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

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

2 Interface specifications

2.1 Overview

This guide provides all the required information for parties intending to provide mediated GPRS RAN PM, data to the Tivoli Netcool Service Quality Manager GPRS RAN PM service solution.

GPRS RAN PM requires two types of mediation files:

- A metric CSV file that contains the data

- A data enrichment mapping file (custom resource mapping file)

2.1.1 Custom Resource Mapping

The custom resource mapping (CRM) is an external mapping that provides a way for IBM Tivoli Netcool Service Quality Manager customers to define external relationships between objects that are managed directly within the system and for others outside it. For instance, the CRM defines CGI (Cell Global Identity) -> CellArea relationships and the CRM is accessed with the default IBM Tivoli Netcool Service Quality Manager CRM implementation. Note that a CGI can only be defined in one cell area.

2.2 Supported version

This guide refers to the GPRS RAN PM Service solution 1.5.

2.3 Interface definition

2.3.1 File naming convention

The file naming convention is:

```
A<YYYYMMDD>.<hhmm>-<YYYYMMDD>.<hhmm>[_<UniqueID>].csv
```

Where:

`<YYYYMMDD>.<hhmm>` elements correspond to the file interval start time and end time respectively.

- `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).

- `hh` is the two-digit hour of the day, based on 24-hour clock (00-23).

- `mm` is the two-digit minute of the hour (00-59).

File names are expected to be adjusted to compensate for the difference between GMT and the local time of the host system where the GPRS RAN PM service solution is deployed. The mediator must clarify the appropriate time zone adjustment with the Tivoli Netcool service Quality Manager customer.

`UniqueID` is an optional element that can be used, for example, to uniquely identify the GPRS RAN PM system. This element is recommended in situations where the deployed solution has multiple mediation points.

File examples

The following are example files that show the naming convention:

- `A20080420.1300-20080420.1400_sqm_gprs_ran_pm.csv`

- `A20090122.1800-20090122.1900_GPRS_RAN_PM_file123.csv`

2.4 Data specification

2.4.1 GPRS RAN PM file format

The data file must provide the fields in the top down order as shown in table below. The file must contain a standard CSV header line containing the field names listed in the table.

Table 3: File format

Field Name	Field Description	Constraints	Example
CGI	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)	Non-nullable	78941084D7F99F
BSSName	The name of the current BSS. This name (usually specified in OMC-R) is a collective name for the BSC, all its containing BTSs and, in turn, the CELLs under their control. Although there are no KQIs based on this column in	Nullable, but if present = Text String (16 characters)	CBSKSCB0SM

	this release of COTS (V1.0), this field may be used in reports to group CELLs under their contolling BSS.		
SourceVendor	0 Ericsson 1 Alcatel Lucent 2 Nortel 3 Nokia 4 Huawei 5 Motorola 6 Juniper 7 UT star 8 NSN	Not-nullable, ENUM	0
VendorVersion	The version of the interface of equipment supplier whose systems supplied the metrics provided in this vendor-independent data file, e.g. "R10"	Nullable, but if present = Text String (16 characters)	R10
TbfUplinkAttempts	This KPI indicates the total number of Temporary Block Flow (TBF) allocation attempts in the uplink direction.	Nullable, but ≥ 0 if present, INTEGER	1103
TbfUplinkSuccesses	This KPI indicates the total number of Temporary Block Flow (TBF) allocation successes in the uplink direction.	Nullable, but ≥ 0 if present, INTEGER	1013
TbfUplinkFailures	This KPI indicates the total number of Temporary Block Flow (TBF) allocation failures in the uplink direction.	Nullable, but ≥ 0 if present, INTEGER	90
TbfDownlinkAttempts	This KPI indicates the total number of Temporary Block Flow (TBF) allocation attempts in the downlink direction.	Nullable, but ≥ 0 if present, INTEGER	4988
TbfDownlinkSuccesses	This KPI indicates the total number of Temporary Block Flow (TBF) allocation successes in the downlink direction.	Nullable, but ≥ 0 if present, INTEGER	4781
TbfDownlinkFailures	This KPI indicates the total number of Temporary Block Flow (TBF) allocation failures in the downlink direction.	Nullable, but ≥ 0 if present, INTEGER	207
NumberTbfsUplink	This KPI indicates the accumulated number of Temporary Block Flow (TBF)s allocated in the uplink direction.	Nullable, but ≥ 0 if present, INTEGER	1373
NumberTbfsDownlink	This KPI indicates the accumulated number of Temporary Block Flow (TBF)s allocated in the Downlink direction.	Nullable, but ≥ 0 if present, INTEGER	6372

PdchAllocationAttempts		Nullable, but ≥ 0 if present, INTEGER	116
PdchAllocationSuccesses	This KPI indicates the total number of PDCH allocation successes . The counter value is incremented at each allocation of a PDCHs from the circuit switched domain.	Nullable, but ≥ 0 if present, INTEGER	112
PdchAllocationFailures	This KPI indicates the total number of PDCH allocation failures . The counter value is incremented at each failed allocation of a PDCHs from the circuit switched domain.	Nullable, but ≥ 0 if present, INTEGER	4
MeanAvailablePdchs	This measurement provides the mean number of PDCHs which are available to be used (including those actually in use) over the measured period.	Nullable, but ≥ 0 if present, INTEGER	16
MeanOccupiedPdchs	This measurement provides the arithmetic mean number of occupied PDCHs over the measured period..	Nullable, but ≥ 0 if present, INTEGER	11
RlcUplinkDataVolume	This KPI measures the RLC data volume (in kbits) in the Uplink direction	Nullable, but ≥ 0 if present, INTEGER	13381
RlcUplinkTransmitTime	This KPI measures the time (in seconds) that RLC data was actually being transmitted in the Uplink Direction. Note: If unavailable, this can be defaulted to the measurement period in seconds.	Nullable, but ≥ 0 if present, INTEGER	2051
RlcDownlinkDataVolume	This KPI measures the RLC data volume (in kbits) in the Downlink direction	Nullable, but ≥ 0 if present, INTEGER	29686
RlcDownlinkTransmitTime	This KPI measures the time (in seconds) that RLC data was actually being transmitted in the Downlink Direction. Note: If unavailable, this can be defaulted to the adapter measurement period in seconds.	Nullable, but ≥ 0 if present, INTEGER	9788
OperationalDowntime	Operational downtime is a measure of the unavailability of a CELL in this measurement period due to unplanned downtime. Operational downtime is the time (in seconds) during this measurement period. in which the CELL (i.e. all channels in the Cell , whether TCH, PDCH or both) are unavailable due to unplanned (i.e. malfunction) downtime.	Nullable, but ≥ 0 if present, INTEGER	21

AdministrativeDowntime	This is a measure of the unavailability of 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 it occasionally occurs due to system administrator error) Administrative downtime is the time (in seconds) during this measurement period. in which the CELL (i.e. all channels in the Cell , whether TCH, PDCH or both) are unavailable due to planned administrative downtime.	Nullable, but ≥ 0 if present, INTEGER	34
TbfDropRate	Ratio of Temporary Block Flows (TBF) dropped to total TBFs	Nullable, but ≥ 0 if present, FLOAT	9.5
TbfDropRateWt	The weight KPI is generally set to the denominator of the formula which is used to calculate the corresponding rate or throughput KPI. It is used during aggregation to produce weighted-means where appropriate. A typical value for the weight KPI would be the number of TBFs in the cell. The weight may also be set to a value of '1' which would treat each KPI value equally during aggregation.	Nullable, but ≥ 0 if present, INTEGER	1
GprsAvgUlTpTbf	Average uplink GPRS throughput per Temporary Block Flow (TBF)	Nullable, but ≥ 0 if present, FLOAT	9.9
GprsAvgUlTpTbfWt	The weight KPI is generally set to the denominator of the formula which is used to calculate the corresponding rate or throughput KPI. It is used during aggregation to produce weighted-means where appropriate. A typical value for the weight KPI would be the number of TBFs in the cell. The weight may also be set to a value of '1' which would treat each KPI value equally during aggregation.	Nullable, but ≥ 0 if present, INTEGER	
GprsAvgDlTpTbf	Average downlink GPRS throughput per Temporary Block Flow (TBF)	Nullable, but ≥ 0 if present, FLOAT	5.5
GprsAvgDlTpTbfWt	The weight KPI is generally set to the denominator of the formula which is used to calculate the corresponding rate or throughput KPI. It is used during aggregation to produce weighted-means where appropriate. A typical value for the weight KPI would be the number of TBFs in the cell. The weight may also be set to a value of '1' which would treat each KPI value equally during aggregation.	Nullable, but ≥ 0 if present, INTEGER	1

EdgeAvgUlTpTbf	Average uplink EDGE throughput per Temporary Block Flow (TBF)	Nullable, but ≥ 0 if present, FLOAT	9.8
EdgeAvgUlTpTbfWt	The weight KPI is generally set to the denominator of the formula which is used to calculate the corresponding rate or throughput KPI. It is used during aggregation to produce weighted-means where appropriate. A typical value for the weight KPI would be the number of TBFs in the cell. The weight may also be set to a value of '1' which would treat each KPI value equally during aggregation.	Nullable, but ≥ 0 if present, INTEGER	1
EdgeAvgDlTpTbf	Average downlink EDGE throughput per Temporary Block Flow (TBF)	Nullable, but ≥ 0 if present, FLOAT	8.8
EdgeAvgDlTpTbfWt	The weight KPI is generally set to the denominator of the formula which is used to calculate the corresponding rate or throughput KPI. It is used during aggregation to produce weighted-means where appropriate. A typical value for the weight KPI would be the number of TBFs in the cell. The weight may also be set to a value of '1' which would treat each KPI value equally during aggregation.	Nullable, but ≥ 0 if present, INTEGER	1
EdgeReqDlThroughput	EDGE Requested Downlink throughput.	Nullable, but ≥ 0 if present, INTEGER	8800

Example data:

The following examples data that shows header and fields:

```
CGI,BSSNAME,SOURCEVENDOR,VENDORVERSION,TBFUPLINKATTEMPTS,TBFUPLINKSUCCESSES,TBFUP
LINKFAILURES,TBFDOWNLINKATTEMPTS,TBFDOWNLINKSUCCESSES,TBFDOWNLINKFAILURES,NUMBERT
BFSUPLINK,NUMBERTBFSDOWNLINK,PDCHALLOCATIONATTEMPTS,PDCHALLOCATIONSUCCESSES,PDCHA
LLOCATIONFAILURES,MEANAVAILABLEPDCHS,MEANOCCUPIEDPDCHS,RLCUPLINKDATAVOLUME,RLCUPL
INKTRANSMITTIME,RLCDOWNLINKDATAVOLUME,RLCDOWNLINKTRANSMITTIME,OPERATIONALDOWNTIME
,ADMINISTRATIVEDOWNTIME
```

```
78941084D2A47F,CBSKSCB2SM,0,E6,907,857,50,5773,5583,190,1984,7617,145,144,1,16,12,
16378,2289,25483,11453,5,8
```

```
7894106595866C,TBSDETB4SM,3,RN2.1,839,756,83,3355,3055,300,1010,8647,175,174,1,16,
11,17294,2782,24611,9905,0,19
```

2.4.2 Metric CSV File Granularity

- ▪ The granularity of the file must be one CSV row for each CGI value.

2.4.3 Service Quality Manager delivery and collection mechanism

Transfer mechanism

The CSV data file is transferred by data push to the data directory on the Tivoli Netcool Service Quality Manager host platform where the adapter is configured.

Mediation systems must deliver the data files to that directory. The transfer mechanism must be agreed between the Tivoli Netcool service Quality Manager customer and the data mediator, but could typically include methods such as FTP (File Transfer Protocol), SFTP (Secure File Transfer Protocol), SCP (Secure Copy), UUCP (Unix to Unix Copy Protocol) and local copy.

Data directory

The data directory is configurable by the Tivoli Netcool Service Quality Manager customer. The default value is `/appl/sa/var/adapter/gprs_ran_pm_loader`. The Tivoli Netcool Service Quality Manager customer must ensure that mediation can deliver files to the configured location.

File Interval

The metric CSV file interval is 15 minutes and must be on 15 minute boundaries, for example: 1630 to 1645.

Transfer Latency

The transfer latency of the CSV file is configurable by the IBM Tivoli Netcool Service Quality Manager customers. The default value is 15 minutes. The value of this parameter represents the maximum delay allowed for data presentation at the data directory.

The CRM file is expected to be present when the adapter starts.

Files per Interval

The service solution expects one metric CSV file for each CellArea system per interval.

2.5 CRM Interface Definition

2.5.1 CRM File Naming Convention

The CRM file naming convention as follows:

```
gprs_ran_pm_cellarea.map

gprs_ran_pm_market.map

gprs_ran_pm_bts.map
```

This is not configurable and is predefined in the adapter property files.

2.6   CRM Data Specification

2.6.1   CELL to CellArea CRM mapping file

Table 4: CELL to CellArea CRM mapping file details

Field Name	Field Description	Constraints
CGI	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)	LAC values 0000 and FFFE are reserved.
CellArea	The name of the 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 Data

The following is example data that show fields for CellArea CRM mapping, please note there is no header.

```
78941084D7F99F,Cell Area 0
78941007E43150,Cell Area 0
78941007EF1600,Cell Area 2
```

2.6.2   CELL to Market CRM mapping file

Table 5: CELL to Market CRM mapping file details

Field Name	Description	Constraints

Field Name	Description	Constraints
CGI	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)	
Market	The MARKET of the SQM LOCATION hierarchy to which this cell belongs	Text String (64 characters)

Example

The following is example data that show fields for the Market CRM mapping:

```
78941084D7F99F,Market2
78941007E43150,Market3
78941007EF1600,Market4
```

2.6.3   CELL to BTS CRM mapping file

Table 6: CELL to BTS CRM mapping file details

Field Name	Description	Constraints

Field Name	Description	Constraints
CGI	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)	
BTS	The name of the current BTS, i.e. the parent BTS for the current cell.	Text String (64 characters)

Example

The following is example data that show fields for the BTS CRM mapping:

```
78941084D7F99F,BTS1
78941007E43150,BTS2
78941007EF1600,BTS3
```

2.6.4   SQM Delivery/Collection Mechanism

The CRM mapping file is transferred by data push to the data directory on the IBM Tivoli Netcool Service Quality Manager host platform.

CRM Data Directory

The CRM directory is not configurable and the expected location is
`/appl/sa/var/adapter/mappings/resources`. IBM Tivoli Netcool Service Quality Manager customers need to ensure that mediation can deliver files to the default location.

File Interval

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

3 Enumerations and definitions

3.1 GPRS RAN PM

The data file must use the following table to identify the source vendor.

Table 7: GPRS RAN PM source vendor

Id	SOURCE_VENDOR
0	Ericsson
1	Alcatel Lucent
2	Nortel
3	Nokia
4	Huawei
5	Motorola
6	Juniper
7	UT star
8	NSN

Appendix A Glossary

Table 8: Glossary of acronyms

Acronym	Description
AIX	Advanced Interactive eXecutive
BSS	Base Station Subsystem
CGI	Cell Global Identity
CSV	Comma Separated Values
DBCS	Double Byte Character Set
FTP	File Transfer Protocol
GERAN	GSM Edge Radio Access Network
GMT	Greenwich Mean Time
GPRS	General Packet Radio Service
GPS	Global Positioning System
GUI	Graphical User Interface
IBM	International Business Machines
IP	Internet Protocol
IT	Information Technology
KQI	Key Quality Indicator
PM	Performance Monitor
POD	Plain Old Documentation
RAN	Radio Access Network
SCP	Secure CoPy
SFTP	Secure File Transfer Protocol

SLA	Service Level Agreement
SQL	Structured Query Language
UUCP	Unix to Unix CoPy
XML	Extensible Markup Language

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