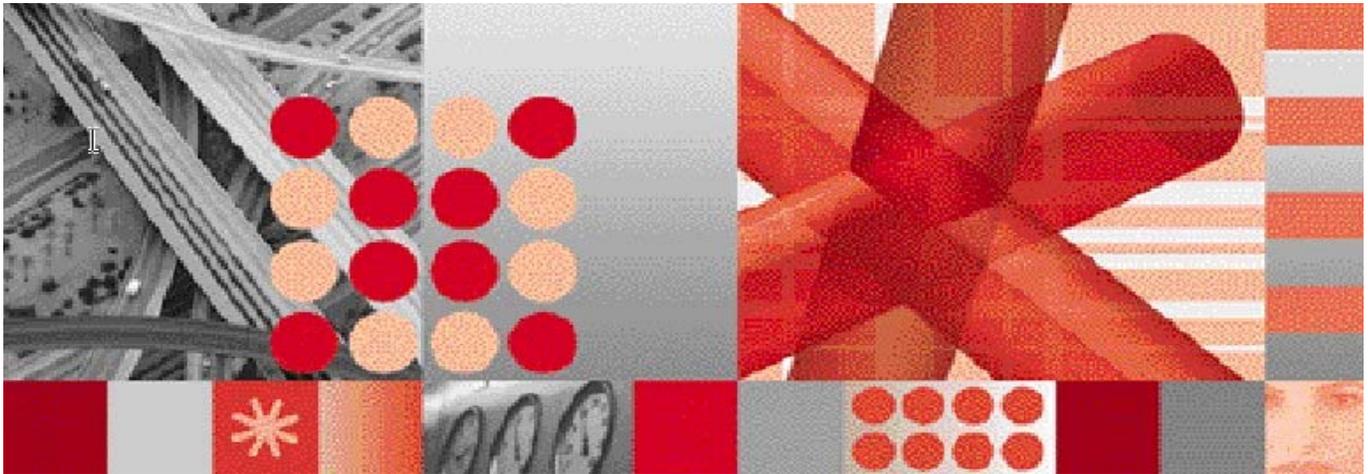


Version 1.5



## 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 for GSM MSC PM Service Solution and to all subsequent releases and modifications until otherwise indicated in new editions.

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# 1 About this Documentation

The *IBM® Tivoli® Netcool® Service Quality Manager for GSM MSC PM Service Solutions Interface Control Guide* details the GSM MSC PM Service Solution input interface, that is, the CSV input files in terms of:

- File naming conventions
- Data file format, structure, and semantics
- Supported delivery/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 Tivoli Netcool Service Quality Manager - GSM MSC PM Service Solution.

## 1.2 Required Skills and Knowledge

This guide assumes you are familiar with the following:

- General IT Principles
- IP Networking
- Unix® Operating Systems
- GSM MSC PM Service Solution

### 1.3 Document Conventions

The following command prompts can be seen throughout this document when users must enter commands in the command line:

- # (hash): This prompt is shown if the user is logged in as user root.
- \$ (dollar): This prompt is shown if the user is logged in as either the saserver or Oracle user.

Note that the above prompts are not part of commands. All commands must be entered after these prompts.

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

**Table 1: General Document Conventions**

<i>Format</i>	<i>Examples</i>	<i>Description</i>
ALL UPPERCASE	GPS NULL MYWEBSERVER	Acronyms, device names, logical operators, registry keys, and some data structures.
<a href="#">Link</a>	See <a href="http://www.sun.com">www.sun.com</a>	For links within a document or to the Internet.
<b>Bold</b>	<b>Note:</b> 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.
<i>Italic</i>	<i>A busy hour is...</i> <i>A web server must be installed...</i> See the <i>User Guide</i>	New terms, emphasis, and book titles.
Monospace	<code>./wminstall</code> <code>\$ cd /cdrom/cdrom0</code> <code>/xml/dict</code> <code>addmsc.sh</code> <code>core.spec</code> 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.
<b>Monospace Bold</b>	<code>[root] # pkginfo   grep -i perl</code> 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.

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<i>Format</i>	<i>Examples</i>	<i>Description</i>
<i>&lt;Monospace italics&gt;</i>	<code># cd &lt;oracle_setup&gt;</code>	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]	<code>log-archiver.sh [-i][-w][-t]</code>	Used in code examples: indicates options.

## 1.4 Document Structure

This guide is organized into the following chapters:

**Table 2: Document Structure**

<i>Chapter</i>	<i>Description</i>
Interface Specifications	Provides interface specification and file naming conventions.

<p><b>Transfer Mechanism</b></p> <p>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.</p> <p>Mediation systems <b>must</b> deliver the data files to that the data directory. The transfer mechanism is agreed between the Tivoli Netcool Service Quality Manager customer and the data mediator, but typically includes methods such as FTP, SFTP, SCP, UUCP and local copy.</p> <p><b>Data Directory</b></p> <p>The customer can configure the data directory. The default value is /appl/sa/var/adapter/gsm_msc_pm_loader. The Tivoli Netcool Service Quality Manager customer must ensure that mediation can deliver files to the configured location.</p> <p><b>File Interval</b></p> <p>The file interval is 15 minutes and must be on 15 minute boundaries, for example: 1615 to 1630.</p> <p><b>Transfer Latency</b></p> <p>The transfer latency is configurable by the customer. The default value is 15 minutes. The value of this parameter represents the maximum delay allowed in data presentation at the data directory.</p> <p><b>Files per Interval</b></p> <p>The service solution expects three CSV files per mediation point per interval.</p> <p>Enumerations and Definitions</p>	<p>Describes the enumerated data used in the model (not used in this one)</p>
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## 1.5 Publications

The following publications are available:

- Tivoli Netcool Service Quality Manager version core library
- Tivoli Netcool Service Quality Manager Module for GSM MSC 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:
  - Starting and stopping the Tivoli Netcool Service Quality Manager application
  - 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*

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 application
- 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*

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 GSM MSC PM Service library

- *IBM Tivoli Netcool Service Quality Manager Module for GSM MSC PM Service Installation Guide*  
Provides the steps that are required to install the Tivoli Netcool Service Quality Manager Module for *GSM MSC PM* Service and its data sources.
- *IBM Tivoli Netcool Service Quality Manager Module for GSM MSC PM Service Overview Guide*  
Provides an overview of the Tivoli Netcool Service Quality Manager Module for *GSM MSC PM* Service product architecture and its entities.
- *IBM Tivoli Netcool Service Quality Manager Module for GSM MSC PM Interface Control Guide*  
Provides details about the Tivoli Netcool Service Quality Manager Module for *GSM MSC PM* Service input interface.
- *IBM Tivoli Netcool Service Quality Manager Module for GSM MSC PM Release Notes*  
Provides information on the Tivoli Netcool Service Quality Manager Module for *GSM MSC PM* service release contents, platform requirements, installation procedures, and known issues.

## 1.5.3 Accessing terminology online

The IBM Terminology website consolidates the terminology from IBM product libraries in one convenient location. You can access the Terminology website at [www-01.ibm.com/software/globalization/terminology](http://www-01.ibm.com/software/globalization/terminology).

## 1.5.4 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 website at <http://www.ibm.com/software/tivoli/documentation>.

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**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.

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## 1.5.5 Ordering publications

You can order many Tivoli publications online at <http://www-05.ibm.com/e-business/linkweb/publications/servlet/pbi.wss>.

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

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- 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, complete the following steps:

1. Go to <http://www-05.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.

## 2 Interface Specifications

### 2.1 Overview

This document provides information for parties intending to provide mediated GSM MSC PM data from GSM Core MSC systems to IBM Tivoli Netcool Service Quality Manager GSM MSC PM Service Solution.

The Service Solution expects to be supplied with data related to GSM MSC, Trunk groups and Control Groups in separate CSV files, which are detailed below.

### 2.2 Supported Version

This document refers to GSM MSC PM Service Solution 1.5.

### 2.3 Interface Definition

#### 2.3.1 File Naming Convention

The GSM MSC PM service solution has three input CSV files.

The file naming convention is:

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

Adjust file names to compensate for the difference between GMT and the local time of the host system where the GSM MSC PM Service Solution is deployed. The mediator clarifies 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 GSM MSC PM System. This element is recommended in situations where the deployed solution has multiple mediation points.

CSVSource is a mandatory element that is used to refer to the Source of the CSV file. Depending on the source of the CSV file, the allowed values for this parameter are:

- MSC – Input CSV file contents are for the MSC
- TRNKGRP – Input CSV file contents are for the Trunk Group
- CTRLUNIT – Input CSV file contents are for the Control Unit

### ***File Examples***

The following are example files that show the naming convention:

- Filename: A20080314.0000-20080314.0015\_MSC1\_MSC.csv
- Filename: A20080314.0015-20080314.0030\_TRUNKGRP1\_TRNKGRP.csv
- Filename: A20080314.0015-20080314.0030\_CONTROLUNIT1\_CTRLUNIT.csv
- Filename: A20080314.0015-20080314.0030\_CTRLUNIT.csv
- Filename: A20080314.0015-20080314.0030\_TRNKGRP.csv
- Filename: A20080314.0000-20080314.0015\_MSC.csv

## **2.4 Data Specification**

The data files must provide the fields in top down order as shown in the tables below. The files must contain standard CSV header lines that include the field names.

### **2.4.1 MSC Metrics CSV File Format**

The GSM MSC PM - MSC metrics file format is described in the following table.

---

---

**Table 3: MSC Metrics File Format**

<b>Field Name</b>	<b>Field Description</b>	<b>Constraints</b>	<b>Example</b>
MSC_NAME	The instance name of the MSC..	String (max length 64 characters) Not Null	Sample-MSC-Name1
LAC_NAME	The name of the Location Area to which data in this row applies. This field should be NULL unless the row contains LA data. If the required data metrics are only available aggregated to the MSC level (and not per-Location Area) then an appropriate value should be chosen for this field to indicate that e.g. "All-LAs".	String - Max length 64 Chars  Conditionally NULL	
GSMCORE_VLR_AUTH_ATTS	Attempted authentication procedures in VLR.	Integer ( $\geq 0$ )	
GSMCORE_VLR_AUTH_SUCCS	Successful authentication procedures in the VLR.	Integer ( $\geq 0$ )	
GSMCORE_HLR_AUTH_ATTS	Attempted requests for Authentication sets sent to HLR by VLRs.	Integer ( $\geq 0$ )	
GSMCORE_HLR_AUTH_SUCCS	Successfully received Authentication sets from HLR to VLRs.	Integer ( $\geq 0$ )	
GSMCORE_IMSI_ATTACH_LU_ATTS	Attempted location update for IMSI attach.	Integer ( $\geq 0$ )	
GSMCORE_IMSI_ATTACH_LU_SUCCS	Successful location update for IMSI attach.	Integer ( $\geq 0$ )	
GSMCORE_INTERMSC_HO_ATTS	Attempted inter-MSC handovers.	Integer ( $\geq 0$ )	
GSMCORE_INTERMSC_HO_DROPS	Unsuccessful inter-MSC handovers with loss of connection.	Integer ( $\geq 0$ )	
GSMCORE_INTERMSC_HO_SUCCS	Successful inter-MSC handovers.	Integer ( $\geq 0$ )	
GSMCORE_INTERMSC_IN_HO_ATTS	Attempted incoming inter-MSC handovers	Integer ( $\geq 0$ )	
GSMCORE_INTERMSC_IN_HO_DROPS	Failed incoming inter-MSC handovers with loss of connection.	Integer ( $\geq 0$ )	
GSMCORE_INTERMSC_IN_HO_SUCCS	Successful incoming inter-MSC handovers.	Integer ( $\geq 0$ )	
GSMCORE_INTERMSC_OUT_HO_ATTS	Attempted outgoing inter-MSC handovers.	Integer ( $\geq 0$ )	
GSMCORE_INTERMSC_OUT_HO_DROPS	Failed outgoing inter-MSC handovers with loss of connection.	Integer ( $\geq 0$ )	
GSMCORE_INTERMSC_OUT_HO_SUCCS	Successful outgoing inter-MSC handovers.	Integer ( $\geq 0$ )	
GSMCORE_INTERVLR_LU_ATTS	Attempted inter-VLR location update.	Integer ( $\geq 0$ )	

<i>Field Name</i>	<i>Field Description</i>	<i>Constraints</i>	<i>Example</i>
GSMCORE_INTERVLR_LU_SUCCS	Successful inter-VLR location update.	Integer (>= 0)	
GSMCORE_INTRAMSC_HO_ATTS	Attempted intra-MSC handovers.	Integer (>= 0)	
GSMCORE_INTRAMSC_HO_DROPS	Failed intra-MSC handovers with loss of connection.	Integer (>= 0)	
GSMCORE_INTRAMSC_HO_SUCCS	Successful intra-MSC handovers.	Integer (>= 0)	
GSMCORE_INTRAVLR_LU_ATTS	Attempted intra-VLR location update.	Integer (>= 0)	
GSMCORE_INTRAVLR_LU_SUCCS	Successful intra-VLR location update.	Integer (>= 0)	
GSMCORE_MO_ABNORMAL	Mobile originated calls which clear with a fault.	Integer (>= 0)	
GSMCORE_MO_ALOC	Average length of mobile originated call in seconds.	Float (>=0.0)	
GSMCORE_MO_ANWS	Answered mobile originating calls.	Integer (>= 0)	
GSMCORE_MO_ATTS	Attempted mobile originating calls.	Integer (>= 0)	
GSMCORE_MO_NORMAL	Mobile originated calls which clear normally.	Integer (>= 0)	
GSMCORE_MO_SUBSCRIBER	Mobile originated calls which clear due to subscriber error.	Integer (>= 0)	
GSMCORE_MO_SUCCS	Successful mobile originating calls (ring).	Integer (>= 0)	
GSMCORE_MO_TRAFFIC	Mobile originating traffic in erlangs.	Float (>=0.0)	
GSMCORE_MT_ABNORMAL	Mobile terminated calls which clear with a fault.	Integer (>= 0)	
GSMCORE_MT_ALOC	Average length of mobile terminated call in seconds.	Float (>=0.0)	
GSMCORE_MT_ANWS	Answered mobile terminating calls.	Integer (>= 0)	
GSMCORE_MT_ATTS	Attempted mobile terminating calls.	Integer (>= 0)	
GSMCORE_MT_NORMAL	Mobile terminated calls which clear normally.	Integer (>= 0)	
GSMCORE_MT_SUBSCRIBER	Mobile terminated calls which clear due to subscriber error.	Integer (>= 0)	
GSMCORE_MT_SUCCS	Successful mobile terminating calls (ring).	Integer (>= 0)	
GSMCORE_MT_TRAFFIC	Mobile terminating traffic in erlangs.	Float (>=0.0)	
GSMCORE_PAGING_ATTS	Attempted page requests.	Integer (>= 0)	
GSMCORE_PAGING_SUCCS	Successful page requests.	Integer (>= 0)	
GSMCORE_PERIODIC_LU_ATTS	Attempted period location update.	Integer (>= 0)	
GSMCORE_PERIODIC_LU_SUCCS	Successful period location update.	Integer (>= 0)	

**Example Data**

The following is example data showing header and fields:

```
MSC_NAME , LAC_NAME , GSMCORE_VLR_AUTH_ATTSS , GSMCORE_VLR_AUTH_SUCCS , GSMCORE_HLR_AUTH_ATTSS , GSMCORE_HLR_AUTH_SUCCS , GSMCORE_IMSI_ATTACH_LU_ATTSS , GSMCORE_IMSI_ATTACH_LU_SUCCS , GSMCORE_INTERMSC_HO_ATTSS , GSMCORE_INTERMSC_HO_DROPS , GSMCORE_INTERMSC_HO_SUCCS , GSMCORE_INTERMSC_IN_HO_ATTSS , GSMCORE_INTERMSC_IN_HO_DROPS , GSMCORE_INTERMSC_IN_HO_SUCCS , GSMCORE_INTERMSC_OUT_HO_ATTSS , GSMCORE_INTERMSC_OUT_HO_DROPS , GSMCORE_INTERMSC_OUT_HO_SUCCS , GSMCORE_INTERVLR_LU_ATTSS , GSMCORE_INTERVLR_LU_SUCCS , GSMCORE_INTRAMSC_HO_ATTSS , GSMCORE_INTRAMSC_HO_DROPS , GSMCORE_INTRAMSC_HO_SUCCS , GSMCORE_INTRAVLR_LU_ATTSS , GSMCORE_INTRAVLR_LU_SUCCS , GSMCORE_MO_ABNORMAL , GSMCORE_MO_ALOC , GSMCORE_MO_ANWS , GSMCORE_MO_ATTSS , GSMCORE_MO_NORMAL , GSMCORE_MO_SUBSCRIBER , GSMCORE_MO_SUCCS , GSMCORE_MO_TRAFFIC , GSMCORE_MT_ABNORMAL , GSMCORE_MT_ALOC , GSMCORE_MT_ANWS , GSMCORE_MT_ATTSS , GSMCORE_MT_NORMAL , GSMCORE_MT_SUBSCRIBER , GSMCORE_MT_SUCCS , GSMCORE_MT_TRAFFIC , GSMCORE_PAGING_ATTSS , GSMCORE_PAGING_SUCCS , GSMCORE_PERIODIC_LU_ATTSS , GSMCORE_PERIODIC_LU_SUCCS
```

```
MSC_1 , MSC_1_LAC_1 , 82 , 78 , 89 , 81 , 43 , 41 , 93 , 0 , 88 , 59 , 0 , 57 , 34 , 0 , 31 , 32 , 29 , 31 , 47 , 45 , 15 , 13 , 56 , 50 , 69 , 738 , 1215 , 1069 , 71 , 1196 , 60.41 , 17 , 76.06 , 802 , 1110 , 984 , 9 , 1010 , 46.99 , 101 , 91 , 61 , 56
```

```
MSC_2 , MSC_1_LAC_2 , 64 , 61 , 62 , 55 , 42 , 38 , 89 , 2 , 85 , 54 , 2 , 51 , 35 , 0 , 34 , 28 , 26 , 26 , 42 , 39 , 23 , 21 , 64 , 61 , 19 , 921 , 1393 , 1222 , 64 , 1350 , 83.68 , 12 , 51.46 , 775 , 1368 , 1245 , 25 , 1282 , 44.20 , 95 , 88 , 77 , 73
```

**2.4.2 CONTROL UNIT Metrics CSV File Format**

The GSM MSC PM – CONTROL UNIT metrics file format is described in the following table.

**Table 4: CONTROL UNIT Metrics File Format**

<b>Field Name</b>	<b>Field Description</b>	<b>Constraints</b>	<b>Example</b>
MSC_NAME	The instance name of the MSC.	String (max length 64 characters) Not Null	Sample-MSC-Name1
CONTROL_UNIT	The control unit instance identifier.	String (max length 64 characters) Not Null	Sample-CU-Name1
GSMCORE_OUT_OF_SERVICE_TIME	Out of service time of the control unit in seconds.	Float (>=0.0)	

**Example Data**

The following examples include data with headers (where applicable) and fields:

CONTROL UNIT Metrics:

```
MSC_NAME , CONTROL_UNIT , GSMCORE_OUT_OF_SERVICE_TIME
```

MSC\_1,CU\_1,0.00

MSC\_1,CU\_2,0.00

### 2.4.3 TRUNK GROUP Metrics CSV File Format

The GSM MSC PM – TRUNK GROUP metrics file format is described in the following table.

**Table 5: TRUNK GROUP Metrics File Format**

<i>Field Name</i>	<i>Field Description</i>	<i>Constraints</i>	<i>Example</i>
MSC_NAME	The instance name of the MSC.	String (max length 64 characters) Not Null	Sample-MSC-Name1
TRUNK_GROUP	The instance name of the TRUNK GROUP.	String (max length 64 characters) Not Null	Sample-TrunkGroup-Name1
TRUNK_DESTINATION	The DESTINATION associated with this Trunk Group.	String (max length 64 characters) Not Null	Sample-TrunkDest-Name1
GSMCORE_TG_AVAIL_CIRCS	The number of available circuits in the trunk group.	Integer (>0)	
GSMCORE_TG_CIRCUITS	The number of circuits in the trunk group.	Integer (>0)	
GSMCORE_TG_CONGTIME	Time of all trunks in trunk group unavailable in seconds.	Float (>=0.0)	
GSMCORE_TG_IN_ANSW	Answered incoming call per trunk group.	Integer (>0)	
GSMCORE_TG_IN_ATTS	Attempted incoming calls per trunk group.	Integer (>0)	
GSMCORE_TG_IN_EXT_ERRS	The number of incoming calls which fail due to a remote error.	Integer (>0)	
GSMCORE_TG_IN_INT_ERRS	The number of incoming calls which fail due to a local MSC error.	Integer (>0)	
GSMCORE_TG_IN_OK	The number of incoming calls which clear normally.	Integer (>0)	
GSMCORE_TG_IN_SUBS_ERRS	The number of incoming calls which fail due to a subscriber error.	Integer (>0)	
GSMCORE_TG_IN_SUCCS	Successful incoming calls per trunk group (ring).	Integer (>0)	

<b>Field Name</b>	<b>Field Description</b>	<b>Constraints</b>	<b>Example</b>
GSMCORE_TG_IN_TRAFFIC	Seized incoming call traffic per trunk group in erlangs.	Float (>= 0.0)	
GSMCORE_TG_OUT_ANSW	Answered outgoing calls per trunk group.	Integer (>0)	
GSMCORE_TG_OUT_ATTS	Attempted outgoing calls per trunk group.	Integer (>0)	
GSMCORE_TG_OUT_CONGS	The number of outgoing call attempts which fail due to congestion.	Integer (>0)	
GSMCORE_TG_OUT_EXT_ERRS	The number of outgoing calls which fail due to a remote error.	Integer (>0)	
GSMCORE_TG_OUT_INT_ERRS	The number of outgoing calls which fail due to a local MSC error.	Integer (>0)	
GSMCORE_TG_OUT_OK	The number of outgoing calls which clear normally.	Integer (>0)	
GSMCORE_TG_OUT_SUBS_ERRS	The number of outgoing calls which fail due to a subscriber error.	Integer (>0)	
GSMCORE_TG_OUT_SUCCS	Successful outgoing calls per trunk group (ring).	Integer (>0)	
GSMCORE_TG_OUT_TRAFFIC	Seized outgoing call traffic per trunk group in erlangs.	Float (>= 0.0)	

**Example Data**

The following are examples of data showing headers (where applicable) and fields:

TRUNK GROUP Metrics:

```
MSC_NAME , TRUNK_GROUP , TRUNK_DESTINATION , GSMCORE_TG_AVAIL_CIRCS , GSMCORE_TG_CIRCUITS , GSMCORE_TG_CONGTIME , GSMCORE_TG_IN_ANSW , GSMCORE_TG_IN_ATTTS , GSMCORE_TG_IN_EXT_ERRS , GSMCORE_TG_IN_INT_ERRS , GSMCORE_TG_IN_OK , GSMCORE_TG_IN_SUBS_ERRS , GSMCORE_TG_IN_SUCCS , GSMCORE_TG_IN_TRAFFIC , GSMCORE_TG_OUT_ANSW , GSMCORE_TG_OUT_ATTTS , GSMCORE_TG_OUT_CONGS , GSMCORE_TG_OUT_EXT_ERRS , GSMCORE_TG_OUT_INT_ERRS , GSMCORE_TG_OUT_OK , GSMCORE_TG_OUT_SUBS_ERRS , GSMCORE_TG_OUT_SUCCS , GSMCORE_TG_OUT_TRAFFIC
```

```
MSC_1 , TRUNK_GROUP_1 , DESTINATION1 , 128 , 128 , 46 , 607 , 1155 , 18 , 4 , 999 , 29 , 1050 , 84.13 , 517 , 965 , 0 , 31 , 13 , 856 , 51 , 951 , 71.47
```

```
MSC_1 , TRUNK_GROUP_2 , DESTINATION4 , 64 , 64 , 127 , 567 , 1023 , 8 , 12 , 929 , 15 , 964 , 33.13 , 495 , 936 , 0 , 4 , 0 , 827 , 13 , 844 , 58.30
```

**CSV File Granularity**

The granularity of the three input CSV files must be:

- MSC - The CSV file for MSC must include only one CSV row for each MSC\_NAME.
- Control Unit - The CSV file for Control Unit must include one unique row for each MSC\_NAME, CONTROL\_UNIT combination.
- Trunk Group - The CSV file for Control Unit must have one unique row for each MSC\_NAME, TRUNK\_GROUP and TRUNK\_DESTINATION combination.

**2.4.4 Tivoli Netcool Service Quality Manager Delivery/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 the data directory. The transfer mechanism is agreed between the Tivoli Netcool Service Quality Manager customer and the data mediator, but typically includes methods such as FTP, SFTP, SCP, UUCP and local copy.

**Data Directory**

The customer can configure the data directory. The default value is /appl/sa/var/adapter/gsm\_msc\_pm\_loader. The Tivoli Netcool Service Quality Manager customer must ensure that mediation can deliver files to the configured location.

***File Interval***

The file interval is 15 minutes and must be on 15 minute boundaries, for example: 1615 to 1630.

***Transfer Latency***

The transfer latency is configurable by the customer. The default value is 15 minutes. The value of this parameter represents the maximum delay allowed in data presentation at the data directory.

***Files per Interval***

The service solution expects three CSV files per mediation point per interval.

## 3 Enumerations and Definitions

There are no enumerations defined for GSM MSC PM.

# Appendix A Glossary

**Table 6: Glossary of Terms**

<b>Acronym</b>	<b>Description</b>
AUC	Authentication center
BSC	Base station controller
BSS	Base station system
CSV	Comma separated value
EIR	Equipment identity register
GGSN	Gateway GPRS support node
GMSC	Gateway mobile services switching centre
GMT	Greenwich Mean Time
GPRS	General packet radio service
GSM	Groupe Speciale Mobile (or, more commonly, Global System for Mobile communications)
HLR	Home location register
IMEI	International Mobile (station) Equipment Identity
ISDN	Integrated Services Digital Network
ISUP	Integrated Services User Part
KPI	Key performance indicator
KQI	Key quality indicator
MS	Mobile station
MSC	Mobile services switching center
PLMN	Public land mobile network
QoS	Quality of service
RAN	Radio access network
SGSN	Serving GPRS support node
SLA	Service level agreement
SS7	Signaling system number 7
TUP	Telephone user part
UMTS	Universal Mobile Telecommunication System
UUCP	Unix-To-Unix Copy Protocol
VLR	Visitor location register

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