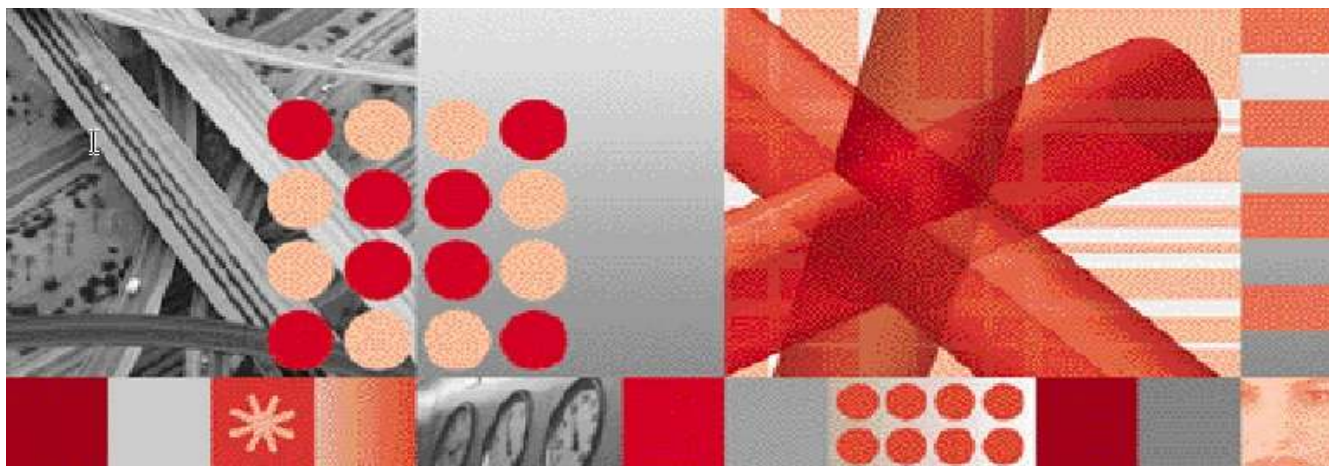




Netcool Service Quality Manager GSM Service Solution

Version 1.4.3

IBM



Release Notes

Note: Before using this information and the product it supports, read the information in “Notices” on page 25.

This edition applies to version 1, release 4, modification 3 of the IBM Tivoli Netcool Service Quality Manager GSM 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 GSM Service Solution Release Notes* guide is organized into the following chapters:

Table 1 Guide structure

<i>Chapter</i>	<i>Description</i>
About this documentation	An overview of the Tivoli Netcool Service Quality Manager GSM service solution documentation, which gives details of the intended audience and the structure of the guide.
Release details	Information on functionality provided in the release.
Hardware specification	Details of hardware required for the release.
Software requirements	Details of software required for the release.
Installation	Details on guides to be followed during the installation of the product for the release.
Known issues	Details on known issues included in the release and workarounds, if available.

1.1 Audience

The target audience of this guide is IBM® Tivoli® Netcool® Service Quality Manager GSM (Global System for Mobile Communications) service solution customers. They must be familiar with telecommunication and IT (Information Technology) principles and must also have a good understanding of Solaris and IBM AIX®.

IMPORTANT: Before attempting an installation of the Tivoli Netcool Service Quality Manager GSM service solution you are strongly advised to read the release notes distributed with your Tivoli Netcool Service Quality Manager GSM software. Release notes may contain information specific to your installation. Failure to consult release notes may result in a corrupt, incomplete or failed installation.

Note: Tivoli Netcool Service Quality Manager administrators must not, without prior consultation and agreement from IBM, make any changes to the index organized tables or database schema. Changes to the index organized tables or database schema can result in corruption of data and failure of the Service Quality Manager system. This applies to all releases of Tivoli Netcool Service Quality Manager using all versions of interfaces.

1.2 Required skills and knowledge

This guide assumes you are familiar with the following:

- General IT principles
- UNIX® operating systems
- IP (Internet Protocol) networking
- GSM
- Service Quality Manager modeling concepts i.e. service resources, KPIs (Key Performance Indicators), KQIs (Key Quality Indicators) and SLAs (Service Level Agreements).

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

1.3 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 will be displayed if the user is logged in as user `root`.
- \$ (dollar): This prompt will be 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 2: General guide 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.
<u>Link</u>	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 TRAF-FIC TEMPLATE.	Any text that appears on the GUI.
<i>Italic</i>	A <i>busy hour</i> is... A web Server <i>must</i> be installed... See the <i>User Guide</i>	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 User Publications

The following user publications are provided with the GSM Service Quality Manager service solution:

Table 3 : GSM service solution user documentation

Document	Description
<i>Tivoli Netcool Service Quality Manager Service Solutions Installation Guide</i>	Details the generic steps required to install any Service Quality Manager service solution.
<i>Tivoli Netcool Service Quality Manager GSM RAN PM Service Solution Interface Control Guide</i>	Details the GSM RAN PM service solution input interface.

<i>Tivoli Netcool Service Quality Manager GSM End to End AT Service Solution Interface Control Guide</i>	Details the GSM End to End AT service solution input interface.
<i>Tivoli Netcool Service Quality Manager GSM MSC PM Service Solution Interface Control Guide</i>	Details the GSM MSC PM service solution input interface.
<i>Tivoli Netcool Service Quality Manager GSM SS7 Service Solution Interface Control Guide</i>	Details the GSM SS7 service solution input interface.
<i>Tivoli Netcool Service Quality Manager GSM Service Solution Release Notes</i>	Provides information on the GSM Service Solution release contents, platform requirements, installation and upgrade procedures, and known issues.

The following user publications are provided with the Service Quality Manager core software as Adobe® PDFs (Portable Document Format). Online help is available in HTML format.

Table 4: Service Quality Manager user documentation

Guide title	Description
<i>Release Notes</i>	Provides information on the Service Quality Manager release contents, platform requirements, installation and upgrade procedures, and known issues.
<i>Configuration Guide</i>	Describes SLA provisioning (Parties, SLAs, and SLA templates applications) and Service Quality Manager provisioning (services resources, KQI models and service models applications) in Service Quality Manager.
<i>Monitoring Guide</i>	Describes monitoring (SLA Monitor, KQI analyzer, alarm monitor, audit manager and SLA web monitor applications) in Service Quality Manager.
<i>Customer Experience Manager Monitoring Guide</i>	Describes how to use and monitor the Customer Experience Manager feature in Service Quality Manager.
<i>Customer Experience Manager Provisioning Guide</i>	Reference guide containing information for provisioning the Customer Experience Manager system.
<i>Solaris Server Installation Guide</i>	Describes how to install the Service Quality Manager server system on Solaris 10g.
<i>Client Installation Guide</i>	Describes how to install the Service Quality Manager client.
<i>AIX Installation Guide</i>	Describes how to install the Tivoli Netcool Service Quality Manager server system on IBM AIX® 5.3L.

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<i>Solaris System Administration Guide</i>	<p>Provides an overview of the Service Quality Manager administrative tasks including instructions on how to complete these tasks:</p> <ul style="list-style-type: none">- Starting and stopping Service Quality Manager.- Running batch processes such as archiving trace files and log files.- Backing up and restoring the system.
<i>AIX System Administration Guide</i>	<p>Provides an overview of the AIX Service Quality Manager administrative tasks including instructions on how to complete these tasks:</p> <ul style="list-style-type: none">- Starting and stopping Service Quality Manager.- Running batch processes such as archiving trace files and log files.- Backing up and restoring the system.
<i>Upgrade Guide</i>	<p>Details how to upgrade from one Service Quality Manager version to another.</p>
<i>BusinessObjects Installation and Configuration Guide</i>	<p>Provides information on the steps required to install and configure the BusinessObjects (v 6.5 or XI) server and client for use with Service Quality Manager.</p>
<i>Service Quality Manager Core Online Help</i>	<p>Provides information and procedures for using Service Quality Manager client applications.</p>
<i>Customer Experience Manager Online Help</i>	<p>Describes how to use and monitor the Customer Experience Manager feature in the Service Quality Manager.</p>

<i>SLA Webview Online Help</i>	Describes how to use and monitor the SLA Webview feature in the Service Quality Manager.
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2 Release details

Service Quality Manager GSM v1.4.3 service solution provides the following data sources:

- End-to-End Active Test (E2E AT)
- Mobile Switching Centres – Performance Management (MSC PM)
- Radio Access Network – Performance Management (RAN PM)
- Signalling System 7 (SS7)

3 Hardware specification

The Service Quality Manager GSM service solution can be installed on a Solaris system with the following configuration:

- Machine with T2/SPARC64 VI or UltraSPARC IV+ processor
- 146GB of disk space
- 32GB of memory
- Gigabit Ethernet

The Service Quality Manager GSM service solution can be installed on an AIX system with the following configuration:

- JS22 blade or equivalent
- 146GB of disk space
- 32GB of memory
- Gigabit Ethernet

4 Software requirements

The minimum pre-requisite software requirements are:

- Tivoli Netcool Service Quality Manager v4.1.2 with Fix Pack 0001 (4.1.2-TIV-TNSQM-FP0001) and Interim Fix 0004 (4.1.2-TIV-TNSQM-IF0004) installed.
- Tivoli Netcool Service Quality Manager GOM v1.4.10 or later.

Note: Refer to *Tivoli Netcool Service Quality Manager Version 4.1.2 Release Notes* for the minimum software required to operate this product.

5 Installation

5.1 Installation

To install the Tivoli Netcool Service Quality Manager GSM Service Solution, refer to the *Tivoli Netcool Service Quality Manager Service Solutions Installation Guide*.

Note: Tivoli Netcool Service Quality Manager GSM service solution is dependant on the Tivoli Netcool Service Quality Manager GOM version v1.4.10 or later. Deploy this software using the instructions in chapter 3 of the *Tivoli Netcool Service Quality Manager Service Solutions Installation Guide* prior to proceeding with the installation of Tivoli Netcool Service Quality Manager GSM service solution.

5.2 Service solution model version

Note: Chapter 4 of the *Tivoli Netcool Service Quality Manager Service Solutions Installation Guide* requires the person installing the software to input the service solution name, data source name and model version of the GSM service solution.

The service solution name, data source name and model version of the GSM service solution, are as follows:

- Solution name = GSM
- Data source name = E2E AT
- Model Version = 1.4.3

- Solution name = GSM
- Data source name = MSC PM
- Model version = 1.4.3

- Solution name = GSM
- Data source name = RAN PM
- Model version = 1.4.3

- Solution name = GSM
- Data source name = SS7
- Model version = 1.4.3

5.3 Default resource mapping

This service solution supports Tivoli Netcool Service Quality Manager "Default Resource" instances. These are provided so that data with the following characteristics can be processed and stored by the service solution adapter:

- Any data row which contains ResourceType references that cannot be recognized against the provisioned resource set.

- Any data row which has missing references to one or more resource types.

In each of these cases, the reference is attributed to the "Default Resource" instance of that ResourceType. For example, if the ResourceType is "CellArea" then the default resource for that ResourceType is named "unknown_CellArea". For all other purposes, the default resource can be treated the same as any other instance of the ResourceType. The service solution will produce KQI values for the default resource and these can be monitored for diagnostic purposes if required. The default resource metrics will also be visible in the BusinessObjects reports.

If a customer does not wish to have any default resource metrics created, the default resource instances can be safely deleted using the Tivoli Netcool Service Quality Manager user interface or the provisioning broker. Any data rows matching the characteristics detailed above will then not be included for any KQI metrics and will they not be included in metrics displayed in BusinessObject reports either.

5.4 Test data

Please note that the adapter test input files supplied with the GSM RAN release v1.4.2 are not compatible with 1.4.3. A new set of data has been provided to test this adapter.

6 Known issues

There are no known issues to report with the v1.4.3 release of Tivoli Netcool Service Quality Manager GSM service solution.

7 Fixed issues

The following issues have been addressed with the v1.4.3 release of Tivoli Netcool Service Quality Manager GSM service solution.

7.1 Missing weight units on GSM RAN KQI models

7.1.1 Description

Two KQI model definitions in the GSM RAN PM datasource specify a weight value which will be published but no unit type is defined for the value. This results in the weight value not being displayed in the TNSQM Monitoring clients. The following KQI models are affected

- ◆ CDR_GSM_RAN_CellArea_PM
- ◆ CSR_GSM_RAN_CellArea_PM

7.1.2 Resolution

The correct weight unit has been added in this release for the affected KQI models.

7.1.3 APARs addressed

IZ70297 - MISSING WEIGHT/UNIT PROPERTIES IN PACKAGE FILE FOR CDR_GSM_RAN_CELLAREA_PM AND CSR_GSM_RAN_CELLAREA_PM KQIS

8 Changes in this release

This release includes the following important changes which should be noted carefully:

8.1 GSM RAN PM datasource - New KQI metrics on Location resource type

The GSM RAN PM datasource has been updated to provide values for existing RAN PM KQI metrics on the TNSQM Location resource type. This update allows customers to evaluate the RAN PM metrics on a geographic basis in addition to the existing network element basis.

8.1.1 KQI Measurement Levels

KQI measurements will be produced at all levels in the Location hierarchy for each new KQI definition. The levels in the Location hierarchy are as follows (in ascending order)

Area
Market
Region
Nation

Values produced will be independent from each other. Drilldown and rollup from level to level is not supported for these metrics in the TNSQM User interface.

8.1.2 Location Mapping

The GSM RAN PM datasource has been updated to support a new *Cell to LocationArea* map file. The Interface Control Guide (ICG) has been updated to document this new data requirement. If the *Cell to LocationArea* map file is not available when the loader is started, all Location metrics will be produced for the default Location instances as follows

unknown_Area
unknown_Market
unknown_Region
unknown_Nation

8.1.3 KPI Schema update – Location ID added

The GSM RAN PM KPI database schema has been updated to include the following new field

Table 5: Additional KPI table fields in GSM RAN PM

Name	Type	Description
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Location_ID	Number	The ID value for the resolved Location Area
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This field stores the ID value for the Location Area resolved from the *Cell to Location* map file.

8.1.4 Business Objects updates

The Business Objects reporting universe for GSM RAN PM 1.4.3 has been updated to include the KPI schema updates for Location ID dimension. This is to facilitate customer adhoc reporting on Location data from the GSM RAN PM schema. The reports have not been modified in this release.

8.1.5 Additional KQI metrics in GSM RAN PM 1.4.3

Definitions for the following KQI metrics on the Location resource type have been added in GSM 1.4.3

Table 5: Additional KQI metrics in GSM RAN PM 1.4.3

Category	KQI Name	Description
GSM_RAN_Accessibility	GSM Voice Call Setup Success Rate	This KQI calculates the proportion of mobiles which successfully access a TCH.
GSM_RAN_Accessibility	GSM Voice SDCCH Success Rate	This KQI calculates the proportion of mobiles which were successfully assigned a SDCCH.
GSM_RAN_Accessibility	GSM Voice SDCCH Blocking Rate	This KQI calculates the proportion of all SDCCH resource requests which failed due to no SDCCH resource available.

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GSM_RAN_Accessibility	GSM Voice TCH Blocking Rate	This KQI calculates the proportion of all requests for TCH resources (call origination and incoming handover) which fail due to non available TCH resources.
GSM_RAN_Accessibility	GSM SDCCH Drop Rate	This KQI calculates the proportion of dropped SDCCH connections out of the total number of SDCCH connections without TCH congestion.
GSM_RAN_Accessibility	GSM RACH Success Rate	This KQI calculates the proportion of RACH Requests which were serviced.
GSM_RAN_Retainability	GSM Voice Call Success Rate	This KQI represents an overall figure for network quality from a subscriber's perspective which is the proportion of calls which complete successfully i.e. Set-Up successfully and do not suffer an RF loss before user termination or successful hand out.
GSM_RAN_Retainability	GSM Voice Call Drop Rate	This KQI calculates the proportion of mobiles which, having successfully accessed the TCH, subsequently suffer an abnormal release, caused by loss of the radio link. This formula is comprised of RF Losses on the TCH plus losses during handover.
GSM_RAN_Retainability	GSM HandOver Success rate	This KQI represents the percent of handovers that were attempted from the source cell (cell for which the statistic is presented) that succeeded in making it to the destination cell.

GSM_Voice_Quality	GSM UL RX Quality	This KQI represents the uplink received signal quality (based on BER). This is a histogram which records the distribution of uplink RXQUAL measurements across eight bins (0..7)
GSM_Voice_Quality	GSM DL RX Quality	This KQI represents the downlink received signal quality (based on BER). This is a histogram which records the distribution of downlink RXQUAL measurements across eight bins (0..7).

8.2 GSM SS7 datasource - New KQI metrics on Location resource type

The GSM SS7 datasource has been updated to provide values for existing SS7 KQI metrics on the TNSQM Location resource type. This update allows customers to evaluate the SS7 metrics on a geographic basis in addition to the existing network element and Enterprise customer basis.

8.2.1 KQI Measurement Levels

KQI measurements will be produced at all levels in the Location hierarchy for each new KQI. The levels in the Location hierarchy are as follows (in ascending order)

Area
Market
Region
Nation

Values produced will be independent from each other. Drilldown and rollup from level to level is not supported for these metrics in the TNSQM User interface.

8.2.2 KPI Schema update – Location ID added

The GSM SS7 KPI database schema has been updated to include the following new field

Table 5: Additional KPI table fields in GSM SS7

Name	Type	Description
Location_ID	Number	The ID value for the resolved Location Area

This field stores the ID value for the Location Area resolved from the *Cell to Location* map file.

8.2.3 Business Objects updates

The Business Objects reporting universe for GSM SS7 1.4.3 has been updated to include the KPI schema updates for the Location ID dimension. This is to facilitate customer adhoc reporting on Location data from the GSM SS7 schema. The reports have not been modified in this release

8.2.4 Location Mapping

The GSM SS7 datasource has been updated to support a new *Cell to LocationArea* map file. The Interface Control Guide (ICG) has been updated to document this new data requirement. If the *Cell to LocationArea* map file is not available when the loader is started, all Location metrics will be produced for the default Location instances as follows

```
unknown_Area
unknown_Market
unknown_Region
unknown_Nation
```

8.2.5 Additional KQI metrics in GSM SS7 1.4.3

Definitions for the following KQI metrics on the Location resource type have been added in GSM 1.4.3

Table 6: Additional KQI metrics in GSM SS7 1.4.3

Category	KQI Name	Description
GSM_SS7_Accessibility	Emergency Call Alerting Rate	The success rate for an emergency call attempt reaching the alerting (ring) phase.
GSM_SS7_Accessibility	Emergency Call Answer Rate	The answer rate for an emergency call attempt

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GSM_SS7_Retainability	Emergency Call Efficiency	Probability that an emergency call will terminate without error
GSM_SS7_Retainability	Average Emergency Call Duration	Average duration of an emergency call in seconds
GSM_SS7_Accessibility	Mobile Originating Call Alerting Rate	The success rate for a mobile originating call attempt reaching the alerting (ring) phase
GSM_SS7_Accessibility	Mobile Originating Call Answer Rate	The answer rate for a mobile originating call attempt
GSM_SS7_Retainability	Mobile Originating Call Efficiency	Probability that a mobile originating call will terminate without error
GSM_SS7_Retainability	Average Mobile Originating Call Duration	Average duration of a mobile originating call in seconds

GSM_SS7_Accessibility	Mobile Terminating Call Alerting Rate	The success rate for a mobile terminating call attempt reaching the alerting (ring) phase
GSM_SS7_Accessibility	Mobile Terminating Call Answer Rate	The answer rate for a mobile terminating call attempt
GSM_SS7_Retainability	Mobile Terminating Call Efficiency	Probability that a mobile terminating call will terminate without error
GSM_SS7_Retainability	Average Mobile Terminating Call Duration	Average duration of a mobile terminating call in seconds
GSM_SS7_Accessibility	Location Update Success Rate	The success rate for location update attempts

8.3 GSM MSC PM datasource - New KQI metrics

The GSM MSC PM datasource has been updated to provide new KQI metrics on the MSC resource type and on the Composite resource type [MSC x Trunk Group x Destination]. These measurements will be produced from existing CSV KPI fields and will be available for all existing instances of the relevant resource types.

8.3.1 Additional KQI metrics on MSC type

The following KQI metric definitions have been added in GSM MSC PM 1.4.3 for the MSC resource type.

Table 7: Additional MSC KQI metrics in GSM MSC PM 1.4.3

Category	KQI Name	Description
Accessibility	GSM Core MSC IMSI Attach Location Update Success Rate	The percentage of IMSI attach location update attempts which are successful
Accessibility	GSM Core MSC Intra-VLR Location Update Success Rate	The percentage of intra-VLR location update attempts which are successful
Accessibility	GSM Core MSC Inter-VLR Location Update Success Rate	The percentage of inter-VLR location update attempts which are successful
Retainability	GSM Core MSC Intra-MSC HO Success Rate	Intra-MSC handover success rate

Retainability	GSM Core MSC Inter-MSC HO Success Rate	Inter-MSC handover success rate
Throughput	GSM Core MSC Mobile Originating Traffic	The mobile originating traffic in erlangs
Throughput	GSM Core MSC Mobile Terminating Traffic	The mobile terminating traffic in erlangs

8.3.2 Additional KQI metrics on MSCxTGxDEST type

The following KQI metric definitions have been added in GSM MSC PM 1.4.3 for the MSCxTGxDEST Composite resource type.

Table 8: Additional MSCxTGxDEST KQI metrics in GSM MSC PM 1.4.3

Category	KQI Name	Description
Throughput	GSM Core MSC Trunk Group Incoming Traffic	The incoming traffic in erlangs

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Throughput	GSM Core MSC Trunk Group Outgoing Traffic	The outgoing traffic in erlangs
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