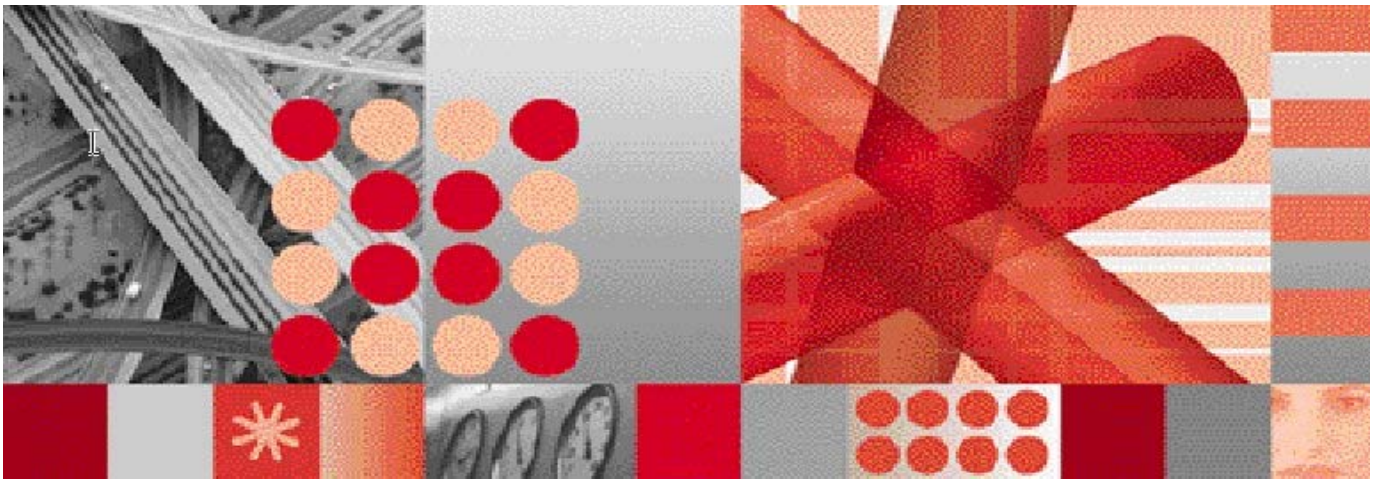
Tivoli Netcool Service Quality Manager
GSM RAN Service Solution
Version 1.5



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 5 of the IBM Tivoli Netcool Service Quality Manager GSM service solution and to all subsequent releases and modifications until otherwise indicated in new editions.

© Copyright International Business Machines Corporation 2008-2011. All rights reserved.

US Government Users Restricted Rights - Use, duplication or disclosure restricted by GSA ADP Schedule Contract with IBM Corp.

Table of contents

1 About this documentation 4
1.1 Audience 4
1.2 Required skills and knowledge 5
1.3 Guide conventions 5
1.4 User Publications 6
2 Release details 9
3 Hardware specification 9
4 Software requirements 10
5 Installation 10
5.1 Installation 10
5.2 Service solution model version 11
5.3 Default resource mapping 11
6 Known issues 13
7 Fixed issues 13
8 Changes in this release 13
8.1 GSM RAN PM Datasource - New KQI metrics on Location_GERAN resource type 13
8.1.1 KPI Schema update – MARKET & BTS added 13
8.1.2 Additional KQI metrics in GSM RAN PM 1.5 14
8.2 GSM RAN PM Datasource - New SLAT 16
8.2.1 Additional SLAT on Location_GERAN type 16
8.3 GSM RAN PM Datasource - New Service Element 17
8.3.1 Additional Service Element on Location_GERAN type 17
Notices 18

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

Chapter	*Description*
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 installing 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, such as 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 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 2: 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 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*
Tivoli Netcool Service Quality Manager Service Solutions Installation Guide	Details the generic steps required to install any Service Quality Manager service solution.
Tivoli Netcool Service Quality Manager GSM RAN PM Service Solution Interface Control Guide	Details the GSM RAN PM service solution input interface.

Tivoli Netcool Service Quality Manager GSM Service Solution Release Notes	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***
Release Notes	Provides information on the Service Quality Manager release contents, platform requirements, installation and upgrade procedures, and known issues.
Configuration Guide	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.
Monitoring Guide	Describes monitoring (SLA Monitor, KQI analyzer, alarm monitor, audit manager and SLA web monitor applications) in Service Quality Manager.
Customer Experience Manager Monitoring Guide	Describes how to use and monitor the Customer Experience Manager feature in Service Quality Manager.
Customer Experience Manager Provisioning Guide	Reference guide that contains information for provisioning the Customer Experience Manager system.
Solaris Server Installation Guide	Describes how to install the Service Quality Manager server system on Solaris 10g.
Client Installation Guide	Describes how to install the Service Quality Manager client.
AIX Installation Guide	Describes how to install the Tivoli Netcool Service Quality Manager server system on IBM AIX® 5.3L.
Solaris System Administration Guide	Provides an overview of the Service Quality Manager administrative tasks including instructions on how to complete these tasks: - Starting and stopping Service Quality Manager - Running batch processes such as archiving trace files and log files - Backing up and restoring the system

AIX System Administration Guide	Provides an overview of the AIX Service Quality Manager administrative tasks including instructions on how to complete these tasks: - Starting and stopping Service Quality Manager - Running batch processes such as archiving trace files and log files - Backing up and restoring the system
Upgrade Guide	Details how to upgrade from one Service Quality Manager version to another.
BusinessObjects Installation and Configuration Guide	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.
Service Quality Manager Core Online Help	Provides information and procedures for using Service Quality Manager client applications.
Customer Experience Manager Online Help	Describes how to use and monitor the Customer Experience Manager feature in the Service Quality Manager.
SLA Webview Online Help	Describes how to use and monitor the SLA Webview feature in the Service Quality Manager.

2 Release details

Service Quality Manager GSM v1.5 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:

- Server 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 prerequisite software requirements are:

- Tivoli Netcool Service Quality Manager v4.1.4 (4.1.4-TIV-TNSQM-)
- Tivoli Netcool Service Quality Manager GOM v1.8 or later

Note: See the *Tivoli Netcool Service Quality Manager Version 4.1.4 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, see the *Tivoli Netcool Service Quality Manager Service Solutions Installation Guide*.

Note: Tivoli Netcool Service Quality Manager GSM service solution depends on the Tivoli Netcool Service Quality Manager GOM version v1.8 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 four of the *Tivoli Netcool Service Quality Manager Service Solutions Installation Guide* requires the person installing the software to enter 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 = 1.5

- Solution name = GSM
- Data source name = MSC PM
- Model version = 1.5

- Solution name = GSM
- Data source name = RAN PM
- Model version = 1.5

- Solution name = GSM
- Data source name = SS7
- Model version = 1.5

5.3 Default resource mapping

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

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

- Any data row that 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," 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 produces KQI values for the default resource and these resources can be monitored for diagnostic purposes if required. The default resource metrics are 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 that match the characteristics detailed above are then not included in KQI metrics and are not included in metrics displayed in BusinessObject reports either.

6 Known issues

There are no known issues to report with the v1.5 release of Tivoli Netcool Service Quality Manager GSM service solution.

7 Fixed issues

There following issues were addressed with the v1.5 release of Tivoli Netcool Service Quality Manager GSM RAN service solution.

MR 1123104521: Enhancement Request

To include KPI and KQI for GSM service monitoring, where paging and Location Update to be tracked up to LAC level.

8 Changes in this release

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

8.1 GSM RAN PM Data Source - New KQI metrics on Location_GERAN resource type

The GSM RAN PM data source was updated to provide new KQI metrics on the Location_GERAN resource type. These measurements are produced from existing CSV KPI fields and are available for all existing instances of the relevant resource types.

8.1.1 KPI Schema update – MARKET & BTS added

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

Table 5: Additional KPI table fields in GSM RAN PM

Name	Type	Description
MARKET_ID	Integer	This field is populated from the Cell-Market mapping file loaded by the adapter.
BTS_ID	Integer	This field is populated from the Cell-BTS mapping file loaded by the adapter.

8.1.2 Additional KQI metrics in GSM RAN PM 1.5

Definitions for the following KQI metrics on the Location_GERAN resource type have been added in GSM 1.5

Table 6: Additional KQI metrics in GSM RAN PM 1.5

Category	KQI Name	Description
GSM_RAN_Accessibility	GSM_ACCESS_SR_Location_GERAN_PM	This KQI calculates the accessibility success rate in the GSM network as a measure of combined probability that mobiles have been assigned with signalling channels and eventually accessed a traffic channel.
GSM_RAN_Accessibility	GSM_BLOCKING_RATE_Location_GERAN_PM	This KQI calculates the total blocking rate in the GSM network as a measure of combined SDCCH and TCH blocking rates

GSM_RAN_Accessibility	CSSR_GSM_RAN_Location_GERAN_PM	This KQI calculates the proportion of mobiles which successfully access a TCH over Location dimension.
GSM_RAN_Accessibility	SDCCH_SR_GSM_RAN_Location_GERAN_PM	This KQI calculates the proportion of mobiles which were successfully assigned a SDCCH over Location dimension.
GSM_RAN_Accessibility	SDCCH_BR_GSM_RAN_Location_GERAN_PM	This KQI calculates the proportion of all SDCCH resource requests which failed due to no SDCCH resource available over Location dimension
GSM_RAN_Accessibility	TCH_BR_GSM_RAN_Location_GERAN_PM	This KQI calculates the proportion of all requests for TCH resources (call origination and incoming handover) which fail due to non available TCH resources over Location dimension.
GSM_RAN_Accessibility	SDCCH_DR_GSM_RAN_Location_GERAN_PM	This KQI calculates the proportion of dropped SDCCH connections out of the total number of SDCCH connections without TCH congestion over Location dimension
GSM_RAN_Accessibility	RACH_SR_GSM_RAN_Location_GERAN_PM	This KQI calculates the proportion of RACH Requests which were serviced over Location dimension

GSM_RAN_Retainability	CSR_GSM_RAN_Location_GERAN_PM	This KQI represents an overall figure for network quality from a subscriber's perspective over Location dimension which is the proportion of calls which complete successfully.
GSM_RAN_Retainability	CDR_GSM_RAN_Location_GERAN_PM	This KQI calculates the proportion of mobiles over Location dimension which, having successfully accessed the TCH, subsequently suffer an abnormal release, caused by loss of the radio link.
GSM_RAN_Retainability	HDO_SR_GSM_RAN_Location_GERAN_PM	This KQI represents the percent of handovers over Location dimension 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	UL_RX_Quality_GSM_RAN_Location_GERAN_PM	This KQI represents the uplink received signal quality (based on BER) over Location dimension. This is a histogram which records the distribution of uplink RXQUAL measurements across eight bins (0..7)
GSM_Voice_Quality	DL_RX_Quality_GSM_RAN_Location_GERAN_PM	This KQI represents the downlink received signal quality (based on BER) over Location dimension. This is a histogram which records the distribution of downlink RXQUAL measurements across eight bins (0..7)

8.2 GSM RAN PM Datasource - New SLAT

The GSM RAN PM datasource has been updated to provide new SLAT on the Location_GERAN resource type.

8.2.1 Additional SLAT on Location_GERAN type

The following SLAT have been added in GSM RAN PM 1.5 for the Location_GERAN resource type.

Table 7: Additional RAN SLAT in GSM RAN PM 1.5

SLAT Name	Description
GSM_RAN_PM_LocationGERAN_SLAT	Template SLA for the all KQIs calculated on the Location GERAN Resource Type

8.3 GSM RAN PM Datasource - New Service Element

The GSM RAN PM datasource has been updated to provide new Service element for the Location_GERAN resource type.

8.3.1 Additional Service Element on Location_GERAN type

The following Service element have been added in GSM RAN PM 1.5 for the Location_GERAN resource type.

Table 8: Additional RAN Service Element in GSM RAN PM 1.5

Service Element Name	Description
GSM_RAN_Location_GERAN	This represents the KQI models associated with the GSM RAN segment. It contains Location_GERAN KQIs.

Notices

IBM may not offer the products, services, or features discussed in this document in all countries. Consult your local IBM representative for information on the products and services currently available in your area. Any reference to an IBM product, program, or service is not intended to state or imply that only that IBM product, program, or service may be used. Any functionally equivalent product, program, or service that does not infringe any IBM intellectual property right may be used instead. However, it is the user's responsibility to evaluate and verify the operation of any non-IBM product, program, or service.

IBM may have patents or pending patent applications covering subject matter described in this document. The furnishing of this document does not grant you any license to these patents. You can send license inquiries, in writing, to:

IBM Director of Licensing
IBM Corporation
North Castle Drive
Armonk NY 10504-1785
U.S.A.

For license inquiries regarding double-byte (DBCS) information, contact the IBM Intellectual Property Department in your country or send inquiries, in writing, to:

Intellectual Property Licensing

Legal and Intellectual Property Law

IBM Japan, Ltd.

3-2-12, Roppongi, Minato-ku,

Tokyo 106-8711

The following paragraph does not apply to the United Kingdom or any other country where such provisions are inconsistent with local law: INTERNATIONAL BUSINESS MACHINES CORPORATION PROVIDES THIS PUBLICATION “AS IS” WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF NON-INFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Some states do not allow disclaimer of express or implied warranties in certain transactions, therefore, this statement may not apply to you.

This information could include technical inaccuracies or typographical errors. Changes are periodically made to the information herein; these changes will be incorporated in new editions of the publication. IBM may make improvements and/or changes in the product(s) and/or the program(s) described in this publication at any time without notice.

Any references in this information to non-IBM Web sites are provided for convenience only and do not in any manner serve as an endorsement of those Web sites. The materials at those Web sites are not part of the materials for this IBM product and use of those Web sites is at your own risk.

IBM may use or distribute any of the information you supply in any way it believes appropriate without incurring any obligation to you.

Licensees of this program who wish to have information about it for the purpose of enabling: (i) the exchange of information between independently created programs and other programs (including this one) and (ii) the mutual use of the information which has been exchanged, should contact:

IBM Corporation
5300 Cork Airport Business Park
Kinsale Road
Cork
Ireland.

Such information may be available, subject to appropriate terms and conditions, including in some cases, payment of a fee.

The licensed program described in this document and all licensed material available for it are provided by IBM under terms of the IBM Customer Agreement, IBM International Program License Agreement or any equivalent agreement between us.

Information concerning non-IBM products was obtained from the suppliers of those products, their published announcements or other publicly available sources. IBM has not tested those products and cannot confirm the accuracy of performance, compatibility or any other claims related to non-IBM products. Questions on the capabilities of non-IBM products should be addressed to the suppliers of those products.

All statements regarding IBM's future direction or intent are subject to change or withdrawal without notice, and represent goals and objectives only.

This information contains examples of data and reports used in daily business operations. To illustrate them as completely as possible, the examples include the names of individuals, companies, brands, and products. All of these names are fictitious and any similarity to the names and addresses used by an actual business enterprise is entirely coincidental.

If you are viewing this information softcopy, the photographs and color illustrations may not appear.

Trademarks

IBM, the IBM logo and ibm.com are trademarks of International Business Machines Corp., registered in many jurisdictions worldwide. Other product and service names might be trademarks of IBM or other companies. A current list of IBM trademarks is available on the Web at "Copyright and trademark information " at www.ibm.com/legal/copytrade.shtml.

Adobe, the Adobe logo, PostScript, and the PostScript logo are either registered trademarks or trademarks of Adobe Systems Incorporated in the United States, and/or other countries.

UNIX is a registered trademark of The Open Group in the United States and other countries.

Other company, product or service names may be trademarks or service marks of others.

Printed in the Republic of Ireland.