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Note: Before using this information and the product it supports, read the information in "Notices" on page 28.

This edition applies to version 1, release 4, modification 4 of IBM Tivoli Netcool Service Quality Manager GPRS 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 GPRS Service Solution Version 1.4.3 to 1.4.4 Upgrade Guide is organized into the following chapters:

Table 1: Document Structure

Chapter	Description
About this Documentation	An overview of the Tivoli Netcool Service Quality Manager for GPRS Service Solution Upgrade Guide documentation, which gives details of the intended audience and the structure of the guide.
Software Requirements	Details of software required for the release.
Hardware Specification	Details of hardware required for the release.
Media Content	Details of media provided for the release.
Upgrade Procedure	Describes the upgrade procedure itself.
Rollback Procedure	Describes the rollback procedure from version 1.4.4 back to version 1.4.3.

1.1 Audience

The target audience of this guide is IBM Tivoli Netcool Service Quality Manager GPRS Service Solution customers. They should be familiar with telecommunication and IT principles and should also have a good understanding of Solaris and/or AIX®.

IMPORTANT: Before attempting an upgrade of the Tivoli Netcool Service Quality Manager GPRS Service Solution to version 1.4.4 you are strongly advised to read the release notes distributed with Tivoli Netcool Service Quality Manager GPRS version 1.4.4 software. Release notes may contain information specific to your installation not contained in this guide. Failure to consult release notes may result in a corrupt, incomplete or failed installation.

Note: Tivoli Netcool Service Quality Manager Administrators should not, without prior consultation and agreement from IBM, make any changes to the database schema. Changes to the database schema may 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 Networking
- GPRS
- Service Quality Manager modeling concepts i.e. service resources, KPIs, KQIs and SLAs

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 Document Conventions

The following command prompts can be seen throughout this document 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 document uses the typographical conventions shown in the following table:

Table 2: 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.
Link	See www.sun.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	<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.
Monospace Bold	<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.
<Monospace italics>	<code># cd <oracle_setup></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 User Publications

The following user publications are provided with the Tivoli Netcool Service Quality Manager GPRS Service Solution software in Adobe® Portable Document Format (PDF).

Table 3: GPRS Service Solution Customer 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 including GPRS.
<i>Tivoli Netcool Service Quality Manager GPRS Interface Control Guides</i>	Details the GPRS Service Solution input interfaces.
<i>Tivoli Netcool Service Quality Manager GPRS Upgrade Guide</i>	Describes how to upgrade the Service Quality Manager GPRS Service Solution and associated GOM from version 1.4.3 to version 1.4.4 while maintaining existing data and configuration.
<i>Tivoli Netcool Service Quality Manager GPRS Service Solution Release Notes</i>	Provides information on Tivoli Netcool Service Quality Manager GPRS Service Solution release contents, platform requirements, installation and upgrade procedures, and known

	issues.
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The following user publications are provided with the Tivoli Netcool Service Quality Manager Version 4.1.1 (or 4.1.2) software in Adobe Portable Document Format (PDF). Online Help is available in HTML format.

Table 4: Service Quality Manager Customer Documentation and Online Help

Document	Description
<i>Release Notes</i>	Provides information on the Tivoli Netcool Service Quality Manager 4.1.1 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 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 Tivoli Netcool Service Quality Manager.
<i>Customer Experience Manager Monitoring Guide</i>	Describes how to use and monitor the Customer Experience Management feature in Tivoli Netcool 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 Tivoli Netcool Service Quality Manager Server system on Solaris 10g.
<i>Client Installation Guide</i>	Describes how to install the Tivoli Netcool Service Quality Manager Client.
<i>AIX Server Installation Guide</i>	Describes how to install the Tivoli Netcool Service Quality Manager Server system on AIX 5.3L.
<i>Solaris System Administration Guide</i>	Provides an overview of the Tivoli Netcool Service Quality Manager administrative tasks including instructions on how to complete the following tasks: <ul style="list-style-type: none"> - Starting and stopping Tivoli Netcool 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>	Provides an overview of the AIX Tivoli Netcool Service Quality Manager administrative tasks including instructions on how to complete the following tasks: <ul style="list-style-type: none"> - Starting and stopping Tivoli Netcool Service Quality Manager. - Running batch processes such as archiving trace files and log files. - Backing up and restoring the system.
<i>Upgrade Guide</i>	Details how to upgrade Tivoli Netcool Service Quality Manager from version 3.1.3 to version 4.1.1 (and above).
<i>Business Objects Installation & Configuration Guide</i>	Provides information on the steps required to install and configure the Business Objects (version 6.5 or Xi) Server and Client for use with Tivoli Netcool Service Quality Manager.
<i>Service Quality Manager Core Online Help</i>	Provides information and procedures for using Tivoli Netcool Service Quality Manager client applications.
<i>Customer Experience Manager Online Help</i>	Describes how to use and monitor Customer Experience Manager in Tivoli Netcool Service Quality Manager.
<i>SLA Webview Online Help</i>	Describes how to use and monitor the SLA Webview feature in the Tivoli Netcool Service Quality Manager.

2 Software Requirements

The minimum pre-requisite software requirements are:

- Tivoli Netcool Service Quality Manager Version 4.1.2 with Fix Pack 0001 (4.1.2-TIV-TNSQM-FP0001) and Interim Fix 0004 (4.1.2-TIV-TNSQM-IF0004) installed.

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

- Tivoli Netcool Service Quality Manager GPRS Service Solution version 1.4.3 is successfully installed prior to performing this upgrade.
- Any installed test data for the Tivoli Netcool Service Quality Manager GPRS Service Solution is uninstalled prior to performing this upgrade.

3 Hardware Specification

Refer to the *Tivoli Netcool Service Quality Manager GPRS Service Solution Release Notes* for details on the hardware specification for GPRS version 1.4.4.

4 Media Content

Refer to the *Tivoli Netcool Service Quality Manager GPRS Service Solution Release Notes* for details on the media content for GPRS version 1.4.4

5 Upgrade Procedure

The upgrade procedure is composed of the following steps in sequence:

- Stopping the GPRS loaders
- Backing up the GPRS loader configuration
- Installing GPRS GOM (Global Object Model) version 1.4.4
- Installing GPRS RAN PM version 1.4.4
- Installing GPRS E2E AT version 1.4.4
- Installing GPRS GB PP version 1.4.4
- Installing GPRS Core GGSN PM version 1.4.4
- Installing GPRS Core SGSN PM version 1.4.4
- Upgrading the GPRS Provisioning to version 1.4.4
- Deploying the GPRS version 1.4.4 loaders
- Restoring the GPRS loader configurations
- Upgrading the GPRS RAN PM and GB PP database schemas
- Restarting the GPRS loaders

Refer to the sections below for details on how to complete each of the main steps identified above.

5.1 Stopping the GPRS Loaders

Note (Distributed Installation): In a distributed system, perform the procedures in this section on the Gateway server only.

To stop the `GPRS loader` processes, complete the following as user `saserver`:

- Execute the commands:

```
$ sap stop gprs_ran_pm_loader
$ sap stop gprs_e2e_at_loader
$ sap stop gprs_gb_pp_loader
$ sap stop gprs_core_ggsn_pm_loader
$ sap stop gprs_core_sgsn_pm_loader
```

5.2 Backing up the GPRS loader Configuration

Note (Distributed Installation): In a distributed system, perform the procedures in this section on the Gateway server only.

To backup the loader configurations, choose a directory `<BACKUP_DIR>` where the backup will be stored, and then complete the following as user `saserver`:

1. Create the backup directory:

```
$ cd $WMCROOT
$ mkdir <BACKUP_DIR>
```

Where `<BACKUP_DIR>` denotes the directory where the backup is to be stored.

2. Execute the following commands:

```
$ rm $WMCROOT/conf/adapter/data/gprs_ran_pm_contextdef.xml
$ rm $WMCROOT/conf/adapter/data/gprs_ran_pm_loader_parser.bl
$ rm $WMCROOT/bin/gprs_ran_pm_loader.env
$ rm $WMCROOT/conf/adapter/data/gprs_e2e_at_contextdef.xml
$ rm $WMCROOT/conf/adapter/data/gprs_e2e_at_loader_parser.bl
$ rm $WMCROOT/bin/gprs_e2e_at_loader.env
$ rm $WMCROOT/conf/adapter/data/gprs_gb_pp_contextdef.xml
$ rm $WMCROOT/conf/adapter/data/gprs_gb_pp_loader_parser.bl
$ rm $WMCROOT/bin/gprs_gb_pp_loader.env
$ rm $WMCROOT/conf/adapter/data/gprs_core_ggsn_pm_contextdef.xml
$ rm $WMCROOT/conf/adapter/data/gprs_core_ggsn_pm_loader_parser.bl
$ rm $WMCROOT/bin/gprs_core_ggsn_pm_loader.env
$ rm $WMCROOT/conf/adapter/data/gprs_core_sgsn_pm_contextdef.xml
$ rm $WMCROOT/conf/adapter/data/gprs_core_sgsn_pm_loader_parser.bl
$ rm $WMCROOT/bin/gprs_core_sgsn_pm_loader.env
```

3. Back up the datasource configuration by executing the following commands:

```
$ cd $WMCROOT/conf/adapter/datasource
$ cp gprs_ran_pm_loader.properties
$WMCROOT/<BACKUP_DIR>/gprs_ran_pm_loader.properties.datasource
```

```
$ cp gprs_e2e_at_loader.properties
$WMCROOT/<BACKUP_DIR>/gprs_e2e_at_loader.properties.datasource

$ cp gprs_gb_pp_loader.properties
$WMCROOT/<BACKUP_DIR>/gprs_gb_pp_loader.properties.datasource

$ cp gprs_core_ggsn_pm_loader.properties
$WMCROOT/<BACKUP_DIR>/gprs_core_ggsn_pm_loader.properties.datasource

$ cp gprs_core_sgsn_pm_loader.properties
$WMCROOT/<BACKUP_DIR>/gprs_core_sgsn_pm_loader.properties.datasource
```

4. Back up the collector configuration by executing the following commands:

```
$ cd $WMCROOT/conf/adapter/collector

$ cp gprs_ran_pm_loader.properties
$WMCROOT/<BACKUP_DIR>/gprs_ran_pm_loader.properties.collector

$ cp gprs_e2e_at_loader.properties
$WMCROOT/<BACKUP_DIR>/gprs_e2e_at_loader.properties.collector

$ cp gprs_gb_pp_loader.properties
$WMCROOT/<BACKUP_DIR>/gprs_gb_pp_loader.properties.collector

$ cp gprs_core_ggsn_pm_loader.properties
$WMCROOT/<BACKUP_DIR>/gprs_core_ggsn_pm_loader.properties.collector

$ cp gprs_core_sgsn_pm_loader.properties
$WMCROOT/<BACKUP_DIR>/gprs_core_sgsn_pm_loader.properties.collector
```

Note: Make a note of the directory location where the loader configurations are backed up to, its contents may be needed at a later date if a rollback needs to be performed..

5.3 Installing GPRS GOM Version 1.4.4

Note (Distributed Installation): In a distributed system, perform the procedures in this section on all servers.

Complete the following as user `saserver`:

1. Transfer the GPRS package `ibm-tn-sqm-gprs_gom-1.4.4.tar.gz` to the `/appl` directory on the Service Quality Manager host machine.
2. Move to the `/appl` directory by executing the command:

```
$ cd /appl
```
3. Unzip the contents of the `gprs_gom` package by executing the command:

```
$ gzcat -d ibm-tn-sqm-gprs_gom-1.4.4.tar.gz |tar xvf -
```
4. Verify the following files are now located in the `/appl` directory:

```
ibm-tn-sqm-gprs_gom.install  
ibm-tn-sqm-gprs_gom.license  
ibm-tn-sqm-gprs_gom.remove  
ibm-tn-sqm-gprs_gom.sw
```

5. Execute the `gprs_gom` install procedure using the command:

```
$ ./ibm-tn-sqm-gprs_gom.install
```

Follow the on-screen prompts as directed.

5.4 Installing GPRS RAN PM Version 1.4.4

Note (Distributed Installation): In a distributed system, perform the procedures in this section on all servers.

Complete the following as user `saserver`:

1. Transfer the GPRS package `ibm-tn-sqm-gprs_ran_pm-1.4.4.tar.gz` to the `/appl` directory on the Service Quality Manager host machine.
2. Move to the `/appl` directory by executing the command:

```
$ cd /appl
```

3. Unzip the contents of the package by executing the command:

```
$ gzcata -d ibm-tn-sqm-gprs_ran_pm-1.4.4.tar.gz |tar xvf -
```

4. Verify the following files are now located in the `/appl` directory:

```
ibm-tn-sqm-gprs_ran_pm.install  
ibm-tn-sqm-gprs_ran_pm.license  
ibm-tn-sqm-gprs_ran_pm.remove  
ibm-tn-sqm-gprs_ran_pm.sw
```

5. Execute the `gprs_ran_pm` install procedure using the command:

```
$ ./ibm-tn-sqm-gprs_ran_pm.install
```

Follow the on-screen prompts as directed.

5.5 Installing GPRS E2E AT Version 1.4.4

Note (Distributed Installation): In a distributed system, perform the procedures in this section on all servers

Complete the following as user `saserver`:

1. Transfer the GPRS E2E package `ibm-tn-sqm-gprs_e2e_at-1.4.4.tar.gz` to the `/appl` directory on the Service Quality Manager host machine.

2. Move to the `/appl` directory by executing the command:

```
$ cd /appl
```

3. Unzip the contents of the package by executing the command:

```
$ gzcac -d ibm-tn-sqm-gprs_e2e_at-1.4.4.tar.gz |tar xvf -
```

4. Verify the following files are now located in the `/appl` directory:

```
ibm-tn-sqm-gprs_e2e_at.install  
ibm-tn-sqm-gprs_e2e_at.license  
ibm-tn-sqm-gprs_e2e_at.remove  
ibm-tn-sqm-gprs_e2e_at.sw
```

5. Execute the install procedure using the command:

```
$ ./ibm-tn-sqm-gprs_e2e_at.install
```

Follow the on-screen prompts as directed.

5.6 Installing GPRS GB PP Version 1.4.4

Note (Distributed Installation): In a distributed system, perform the procedures in this section on all servers

Complete the following as user `saserver`:

1. Transfer the GPRS GB PP package `ibm-tn-sqm-gprs_gb_pp-1.4.4.tar.gz` to the `/appl` directory on the Service Quality Manager host machine.

2. Move to the `/appl` directory by executing the command:

```
$ cd /appl
```

3. Unzip the contents of the package by executing the command:

```
$ gzcac -d ibm-tn-sqm-gprs_gb_pp-1.4.4.tar.gz |tar xvf -
```

4. Verify the following files are now located in the `/appl` directory:

```
ibm-tn-sqm-gprs_gb_pp.install  
ibm-tn-sqm-gprs_gb_pp.license  
ibm-tn-sqm-gprs_gb_pp.remove  
ibm-tn-sqm-gprs_gb_pp.sw
```

5. Execute the `gprs_gb_pp` install procedure using the command:

```
$ ./ibm-tn-sqm-gprs_gb_pp.install
```

Follow the on-screen prompts as directed.

5.7 Installing GPRS CORE GGSN Version 1.4.4

Note (Distributed Installation): In a distributed system, perform the procedures in this section on all servers

Complete the following as user `saserver`:

1. Transfer the GPRS CORE GGSN package `ibm-tn-sqm-gprs_core_ggsn_pm-1.4.4.tar.gz` to the `/appl` directory on the Service Quality Manager host machine.

2. Move to the `/appl` directory by executing the command:

```
$ cd /appl
```

3. Unzip the contents of the package by executing the command:

```
$ gzcata -d ibm-tn-sqm-gprs_core_ggsn_pm-1.4.4.tar.gz |tar xvf -
```

4. Verify the following files are now located in the `/appl` directory:

```
ibm-tn-sqm-gprs_core_ggsn_pm.install  
ibm-tn-sqm-gprs_core_ggsn_pm.license  
ibm-tn-sqm-gprs_core_ggsn_pm.remove  
ibm-tn-sqm-gprs_core_ggsn_pm.sw
```

5. Execute the `gprs_core_ggsn_pm` install procedure using the command:

```
$ ./ibm-tn-sqm-gprs_core_ggsn_pm.install
```

Follow the on-screen prompts as directed.

5.8 Installing GPRS CORE SGSN Version 1.4.4

Note (Distributed Installation): In a distributed system, perform the procedures in this section on all servers

Complete the following as user `saserver`:

1. Transfer the GPRS CORE SGSN package `ibm-tn-sqm-gprs_core_sgsn_pm-1.4.4.tar.gz` to the `/appl` directory on the Service Quality Manager host machine.

2. Move to the `/appl` directory by executing the command:

```
$ cd /appl
```

3. Unzip the contents of the package by executing the command:

```
$ gzcata -d ibm-tn-sqm-gprs_core_sgsn_pm-1.4.4.tar.gz |tar xvf -
```

4. Verify the following files are now located in the `/appl` directory:

```
ibm-tn-sqm-gprs_core_sgsn_pm.install  
ibm-tn-sqm-gprs_core_sgsn_pm.license  
ibm-tn-sqm-gprs_core_sgsn_pm.remove
```

```
ibm-tn-sqm-gprs_core_sgsn_pm.sw
```

5. Execute the `gprs_core_sgsn_pm` install procedure using the command:

```
$ ./ibm-tn-sqm-gprs_core_sgsn_pm.install
```

Follow the on-screen prompts as directed.

5.9 Upgrading the GPRS Provisioning to Version 1.4.4

Note (Distributed Installation): In a distributed system, perform the procedures in this section on the Application server only.

Complete the following as user `saserver`:

1. Execute the command:

```
$ cd $WMCROOT/packages
```

2. Upgrade the `gprs_gom` package to version 1.4.4 by executing the command:

```
$ package_upgrade -t gprs_gom_1.4.4 -s gprs_gom_1.4.3
```

Follow the on-screen prompts as directed.

3. Upgrade the `gprs_ran_pm` package to version 1.4.4 by executing the command:

```
$ package_upgrade -t gprs_ran_pm_1.4.4 -s gprs_ran_pm_1.4.3
```

Follow the on-screen prompts as directed.

4. Upgrade the `gprs_e2e_at` package to version 1.4.4 by executing the command:

```
$ package_upgrade -t gprs_e2e_at_1.4.4 -s gprs_e2e_at_1.4.3
```

Follow the on-screen prompts as directed.

5. Upgrade the `gprs_gb_pp` package to version 1.4.4 by executing the command:

```
$ package_upgrade -t gprs_gb_pp_1.4.4 -s gprs_gb_pp_1.4.3
```

Follow the on-screen prompts as directed.

6. Upgrade the `gprs_core_ggsn_pm` package to version 1.4.4 by executing the command:

```
$ package_upgrade -t gprs_core_ggsn_pm_1.4.4 -s gprs_core_ggsn_pm_1.4.3
```

Follow the on-screen prompts as directed.

7. Upgrade the `gprs_core_sgsn_pm` package to version 1.4.4 by executing the command:

```
$ package_upgrade -t gprs_core_sgsn_pm_1.4.4 -s gprs_core_sgsn_pm_1.4.3
```

Follow the on-screen prompts as directed.

5.10 Deploying GPRS Version 1.4.4 Loaders

Note (Distributed Installation): In a distributed system, perform the procedures in this section on the Gateway server only.

Complete the following as user `saserver`:

1. Execute the command:

```
$ cd $WMCROOT/packages
```

2. Deploy the `gprs_ran_pm_loader` by executing the command:

```
$ wmc_ant -f adp_deploy.xml -Dsa.package=gprs_ran_pm_1.4.4 do-deploy
$ wmc_ant -f adp_deploy.xml -Dsa.package=gprs_e2e_at_1.4.4 do-deploy
$ wmc_ant -f adp_deploy.xml -Dsa.package=gprs_gb_pp_1.4.4 do-deploy
$ wmc_ant -f adp_deploy.xml -Dsa.package=gprs_core_ggsn_pm_1.4.4 do-deploy
$ wmc_ant -f adp_deploy.xml -Dsa.package=gprs_core_sgsn_pm_1.4.4 do-deploy
```

Note: The following warning messages can be safely ignored during the execution of the commands in section 2 above:

```
Warning: /appl/sa/packages/gprs_core_ggsn_pm_1.4.4/conf/service/resourcemgmt not found.
Warning: /appl/sa/packages/gprs_core_sgsn_pm_1.4.4/conf/service/resourcemgmt not found.
Warning: /appl/sa/packages/gprs_e2e_at_1.4.4/conf/service/resourcemgmt not found.
```

5.11 Restoring the GPRS Loader Configurations

Note (Distributed Installation): In a distributed system, perform the procedures in this section on the Gateway server only.

To restore the loader configurations, complete the following as user `saserver`:

1. Restore the datasource configuration by executing the commands:

```
$ cd $WMCROOT/conf/adapter/datasource
$ cp $WMCROOT/<BACKUP_DIR>/gprs_ran_pm_loader.properties.datasource
./gprs_ran_pm_loader.properties
$ cp $WMCROOT/<BACKUP_DIR>/gprs_e2e_at_loader.properties.datasource
./gprs_e2e_at_loader.properties
$ cp $WMCROOT/<BACKUP_DIR>/gprs_gb_pp_loader.properties.datasource
./gprs_gb_pp_loader.properties
$ cp $WMCROOT/<BACKUP_DIR>/gprs_core_ggsn_pm_loader.properties.datasource
./gprs_core_ggsn_pm_loader.properties
$ cp $WMCROOT/<BACKUP_DIR>/gprs_core_sgsn_pm_loader.properties.datasource
./gprs_core_sgsn_pm_loader.properties
```

2. Restore the collector configuration by executing the commands:

```
$ cd $WMCROOT/conf/adapter/collector
```

```
$ cp $WMCROOT/<BACKUP_DIR>/gprs_ran_pm_loader.properties.collector
./gprs_ran_pm_loader.properties

$ cp $WMCROOT/<BACKUP_DIR>/gprs_e2e_at_loader.properties.collector
./gprs_e2e_at_loader.properties

$ cp $WMCROOT/<BACKUP_DIR>/gprs_gb_pp_loader.properties.collector
./gprs_gb_pp_loader.properties

$ cp $WMCROOT/<BACKUP_DIR>/gprs_core_ggsn_pm_loader.properties.collector
./gprs_core_ggsn_pm_loader.properties

$ cp $WMCROOT/<BACKUP_DIR>/gprs_core_sgsn_pm_loader.properties.collector
./gprs_core_sgsn_pm_loader.properties
```

5.12 Upgrading the GPRS Version 1.4.4 Schema

Note (Distributed Installation): In a distributed system, perform the procedures in this section on the Database server only.

Complete the following as user `saserver`:

1. Change to the following directory:

```
$ cd $WMCROOT/packages/gprs_ran_pm_1.4.4/admin/oracle/schema
```

2. Connect to oracle database `sadb` as user `saserver` using `sqlplus`: (**Note:** You will be prompted for the current `saserver` DB user password)

```
$ sqlplus saserver@sadb
```

3. Upgrade the GPRS RAN PM schema files Version 1.4.3 to Version 1.4.4 by executing the command:

```
SQL> @upgd_kpi_tab.ddl;
```

4. Exit from `sqlplus`

```
SQL> exit;
```

5. Change to the following directory:

```
cd $WMCROOT/packages/gprs_gb_pp_1.4.4/admin/oracle/schema
```

6. Connect to oracle database `sadb` as user `saserver` using `sqlplus`: (**Note:** You will be prompted for the current `saserver` DB user password)

```
$ sqlplus saserver@sadb
```

7. Upgrade the GPRS GB PP schema Version 1.4.3 to Version 1.4.4 by executing the comand:

```
SQL> @upgd_kpi_tab.ddl;
```

8. Exit from sqlplus

```
SQL> exit;
```

5.13 Restarting the GPRS Loader Processes

Note (Distributed Installation): In a distributed system, perform the procedures in this section on the Application server only.

To restart the GPRS loader processes, complete the following as user `saserver`:

1. Execute the commands:

```
$ sap start gprs_ran_pm_loader
$ sap start gprs_e2e_at_loader
$ sap start gprs_gb_pp_loader
$ sap start gprs_core_ggsn_pm_loader
$ sap start gprs_core_sgsn_pm_loader
```

6 Rollback Procedure

The rollback procedure is composed of the following steps in sequence:

- Stopping the GPRS loaders
- Rolling back the GPRS GOM and GPRS loader provisioning to version 1.4.3
- Deploying the GPRS version 1.4.3 loaders
- Restoring the GPRS loader configuration
- Restoring the GPRS RAN PM and GB PP database schemas
- Uninstalling GPRS GOM version 1.4.4
- Uninstalling GPRS RAN PM version 1.4.4
- Uninstalling GPRS E2E AT version 1.4.4
- Uninstalling GPRS GB PP version 1.4.4
- Uninstalling GPRS Core GGSN PM version 1.4.4
- Uninstalling GPRS Core SGSN PM version 1.4.4
- Restarting the GPRS loader processes

6.1 Stopping the GPRS Loaders

Note (Distributed Installation): In a distributed system, perform the procedures in this section on the Application server only.

To stop the `GPRS loader` processes, complete the following as user `saserver`:

- Execute the commands:

```
$ sap stop gprs_ran_pm_loader
$ sap stop gprs_e2e_at_loader
$ sap stop gprs_gb_pp_loader
$ sap stop gprs_core_ggsn_pm_loader
$ sap stop gprs_core_sgsn_pm_loader
```

6.2 Rolling back the GPRS GOM and GPRS Loader Provisioning Packages to Version 1.4.3

Note (Distributed Installation): In a distributed system, perform the procedures in this section on the Application server only.

Complete the following as user `saserver`:

1. Execute the following commands:

```
$ cd $WMCROOT/packages/gprs_gom_1.4.4/admin/provision/rollback/
```

2. Rollback the `gprs_gom` package to version 1.4.3 by executing the command:

```
$ wmc_ant -f rollback-4.1.2.xml -Dpackage.from=gprs_gom_1.4.4 -  
-Dpackage.name=gprs_gom_1.4.3 rollback
```

3. Change directory:

```
$ cd $WMCROOT/packages/gprs_ran_pm_1.4.4/admin/provision/rollback/
```

4. Rollback the `gprs_ran_pm` package to version 1.4.3 by executing the command:

```
$ wmc_ant -f rollback-4.1.2.xml -Dpackage.from=gprs_ran_pm_1.4.4  
-Dpackage.name=gprs_ran_pm_1.4.3 rollback
```

5. \$ cd \$WMCROOT/packages/gprs_e2e_at_1.4.4/admin/provision/rollback/

6. Rollback the `gprs_e2e_at` package to version 1.4.3 by executing the command:

```
$ wmc_ant -f rollback-4.1.2.xml -Dpackage.from=gprs_e2e_at_1.4.4  
-Dpackage.name=gprs_e2e_at_1.4.3 rollback
```

7. \$ cd \$WMCROOT/packages/gprs_gb_pp_1.4.4/admin/provision/rollback/

8. Rollback the `gprs_gb_pp` package to version 1.4.3 by executing the command:

```
$ wmc_ant -f rollback-4.1.2.xml -Dpackage.from=gprs_gb_pp_1.4.4  
-Dpackage.name=gprs_gb_pp_1.4.3 rollback
```

9. \$ cd \$WMCROOT/packages/gprs_core_ggsn_pm_1.4.4/admin/provision/rollback/

10. Rollback the `gprs_core_ggsn_pm` package to version 1.4.3 by executing the command:

```
$ wmc_ant -f rollback-4.1.2.xml -Dpackage.from=gprs_core_ggsn_pm_1.4.4  
-Dpackage.name=gprs_core_ggsn_pm_1.4.3 rollback
```

11. \$ cd \$WMCROOT/packages/gprs_core_sgsn_pm_1.4.4/admin/provision/rollback/

12. Rollback the `gprs_core_sgsn_pm` package to version 1.4.3 by executing the command:

```
$ wmc_ant -f rollback-4.1.2.xml -Dpackage.from=gprs_core_sgsn_pm_1.4.4  
-Dpackage.name=gprs_core_sgsn_pm_1.4.3 rollback
```

6.3 Deploying the GPRS Version 1.4.3 Loaders

Note (Distributed Installation): In a distributed system, perform the procedures in this section on the Gateway server only.

Complete the following as user `saserver`:

1. Remove the existing loaders by executing the commands:

```
$ rm $WMCROOT/conf/adapters/data/gprs_ran_pm_contextdef.xml
```

```
$ rm $WMCROOT/conf/adapters/data/gprs_ran_pm_loader_parser.bl
```

```
$ rm $WMCROOT/bin/gprs_ran_pm_loader.env
$ rm $WMCROOT/conf/adapter/data/gprs_e2e_at_contextdef.xml
$ rm $WMCROOT/conf/adapter/data/gprs_e2e_at_loader_parser.bl
$ rm $WMCROOT/bin/gprs_e2e_at_loader.env
$ rm $WMCROOT/conf/adapter/data/gprs_gb_pp_contextdef.xml
$ rm $WMCROOT/conf/adapter/data/gprs_gb_pp_loader_parser.bl
$ rm $WMCROOT/bin/gprs_gb_pp_loader.env
$ rm $WMCROOT/conf/adapter/data/gprs_core_ggsn_pm_contextdef.xml
$ rm $WMCROOT/conf/adapter/data/gprs_core_ggsn_pm_loader_parser.bl
$ rm $WMCROOT/bin/gprs_core_ggsn_pm_loader.env
$ rm $WMCROOT/conf/adapter/data/gprs_core_sgsn_pm_contextdef.xml
$ rm $WMCROOT/conf/adapter/data/gprs_core_sgsn_pm_loader_parser.bl
$ rm $WMCROOT/bin/gprs_core_sgsn_pm_loader.env
```

2. Deploy the `gprs_ran_pm_1.4` loader by executing the commands:

```
$ cd $WMCROOT/packages
$ wmc_ant -f adp_deploy.xml -Dsa.package=gprs_ran_pm_1.4.3 do-deploy
$ wmc_ant -f adp_deploy.xml -Dsa.package=gprs_e2e_at_1.4.3 do-deploy
$ wmc_ant -f adp_deploy.xml -Dsa.package=gprs_gb_pp_1.4.3 do-deploy
$ wmc_ant -f adp_deploy.xml -Dsa.package=gprs_core_ggsn_pm_1.4.3 do-deploy
$ wmc_ant -f adp_deploy.xml -Dsa.package=gprs_core_sgsn_pm_1.4.3 do-deploy
```

Note: The following warning messages can be safely ignored during the execution of the commands in section 2 above:

Warning: /appl/sa/packages/gprs_core_ggsn_pm_1.4.4/conf/service/resourcegmt not found.

Warning: /appl/sa/packages/gprs_core_sgsn_pm_1.4.4/conf/service/resourcegmt not found.

Warning: /appl/sa/packages/gprs_e2e_at_1.4.4/conf/service/resourcegmt not found.

6.4 Restoring the GPRS Version 1.4.3 Loader Configuration

Note (Distributed Installation): In a distributed system, perform the procedures in this section on the Gateway server only.

To restore the loader configuration, complete the following as user `saserver`:

1. Restore the datasource configuration by executing the commands:

```
$ cd $WMCROOT/conf/adapter/datasource
```

```
$ cp $WMCROOT/<BACKUP_DIR>/gprs_ran_pm_loader.properties.datasource
./gprs_ran_pm_loader.properties

$ cp $WMCROOT/<BACKUP_DIR>/gprs_e2e_at_loader.properties.datasource
./gprs_e2e_at_loader.properties

$ cp $WMCROOT/<BACKUP_DIR>/gprs_gb_pp_loader.properties.datasource
./gprs_gb_pp_loader.properties

$ cp $WMCROOT/<BACKUP_DIR>/gprs_core_ggsn_pm_loader.properties.datasource
./gprs_core_ggsn_pm_loader.properties

$ cp $WMCROOT/<BACKUP_DIR>/gprs_core_sgsn_pm_loader.properties.datasource
./gprs_core_sgsn_pm_loader.properties
```

2. Restore the collector configuration by executing the commands:

```
$ cd $WMCROOT/conf/adapter/collector

$ cp $WMCROOT/<BACKUP_DIR>/gprs_ran_pm_loader.properties.collector
./gprs_ran_pm_loader.properties

$ cp $WMCROOT/<BACKUP_DIR>/gprs_e2e_at_loader.properties.collector
./gprs_e2e_at_loader.properties

$ cp $WMCROOT/<BACKUP_DIR>/gprs_gb_pp_loader.properties.collector
./gprs_gb_pp_loader.properties

$ cp $WMCROOT/<BACKUP_DIR>/gprs_core_ggsn_pm_loader.properties.collector
./gprs_core_ggsn_pm_loader.properties

$ cp $WMCROOT/<BACKUP_DIR>/gprs_core_sgsn_pm_loader.properties.collector
./gprs_core_sgsn_pm_loader.properties
```

6.5 Restoring the GPRS 1.4.3 Schema

Note (Distributed Installation): In a distributed system, perform the procedures in this section on the Database server only.

Complete the following as user `saserver`:

1. Change to the following directory:

```
$ cd $WMCROOT/packages/gprs_ran_pm_1.4.4/admin/oracle/schema
```

2. Connect to oracle database `sadb` as user `saserver` using `sqlplus`: (**Note:** You will be prompted for the current `saserver` DB user password)

```
$ sqlplus saserver@sadb
```

3. Rollback the GPRS RAN PM schema from version 1.4.4 to version 1.4.3 by executing the command:

```
SQL> @rlbk_kpi_tab.ddl;
```

4. Exit from `sqlplus`

```
SQL> exit;
```

5. Change to the following directory:

```
cd $WMCROOT/packages/gprs_gb_pp_1.4.4/admin/oracle/schema
```

6. Connect to oracle database `sadb` as user `saserver` using `sqlplus`: (**Note:** You will be prompted for the current `saserver` DB user password)

```
$ sqlplus saserver@sadb
```

7. Downgrade the GPRS GB PP schema version 1.4.4 to Version 1.4.3 by executing the command:

```
SQL> @rlbk_kpi_tab.ddl;
```

8. Exit from `sqlplus`

```
SQL> exit;
```

6.6 Uninstalling GPRS GOM Version 1.4.4

Note (Distributed Installation): In a distributed system, perform the procedures in this section on all servers

Complete the following as user `saserver`:

1. Change to the `/appl` directory by executing the command:

```
$ cd /appl
```

2. Execute the removal procedure using the command:

```
$ ./ibm-tn-sqm-gprs_gom.remove
```

Follow the on-screen prompts as directed.

3. Untar the contents of the GPRS GOM Version 1.4.3 package by executing the command:

```
$ tar -xvf ibm-tn-sqm-gprs_gom-1.4.3.tar
```

4. Reinstall the GPRS GOM Version 1.4.3 package to restore the GPRS GOM software:

```
# ./ibm-tn-sqm-gprs_gom.install
```

Follow the on-screen prompts as directed.

6.7 Uninstalling GPRS RAN PM Version 1.4.4

Note (Distributed Installation): In a distributed system, perform the procedures in this section on all servers

Complete the following as user `saserver`:

1. Change to the `/appl` directory by executing the command:

```
$ cd /appl
```


2. Execute the removal procedure using the command:

```
$ ./ibm-tn-sqm-gprs_ran_pm.remove
```

Follow the on-screen prompts as directed.

3. Untar the contents of the GPRS RAN PM Version 1.4.3 package by executing the command:

```
$ tar -xvf ibm-tn-sqm-gprs_ran_pm-1.4.3.tar
```

4. Reinstall the GPRS RAN PM Version 1.4.3 package to restore the GPRS RAN PM software:

```
$ ./ibm-tn-sqm-gprs_ran_pm.install
```

Follow the on-screen prompts as directed.

6.8 Uninstalling GPRS E2E AT Version 1.4.4

Note (Distributed Installation): In a distributed system, perform the procedures in this section on all servers

Complete the following as user `saserver`:

1. Change to the `/appl` directory by executing the command:

```
$ cd /appl
```

2. Execute the removal procedure using the command:

```
$ ./ibm-tn-sqm-gprs_e2e_at.remove
```

Follow the on-screen prompts as directed.

3. Untar the contents of the GPRS E2E AT Version 1.4.3 package by executing the command:

```
$ tar -xvf ibm-tn-sqm-gprs_e2e_at-1.4.3.tar
```

4. Reinstall the GPRS E2E AT Version 1.4.3 package to restore the GPRS E2E AT software:

```
$ ./ibm-tn-sqm-gprs_e2e_at.install
```

Follow the on-screen prompts as directed.

6.9 Uninstalling GPRS GB PP Version 1.4.4

Note (Distributed Installation): In a distributed system, perform the procedures in this section on all servers

Complete the following as user `saserver`:

1. Change to the `/appl` directory by executing the command:

```
$ cd /appl
```

2. Execute the removal procedure using the command:

```
$ ./ibm-tn-sqm-gprs_gb_pp.remove
```

Follow the on-screen prompts as directed.

3. Untar the contents of the GPRS GB PP Version 1.4.3 package by executing the command:

```
$ tar -xvf ibm-tn-sqm-gprs_gb_pp-1.4.3.tar
```

4. Reinstall the GPRS GB PP Version 1.4.3 package to restore the GPRS GB PP software:

```
$ ./ibm-tn-sqm-gprs_gb_pp.install
```

Follow the on-screen prompts as directed.

6.10 Uninstalling GPRS CORE GGSN Version 1.4.4

Note (Distributed Installation): In a distributed system, perform the procedures in this section on all servers

Complete the following as user `saserver`:

1. Change to the `/appl` directory by executing the command:

```
$ cd /appl
```

2. Execute the removal procedure using the command:

```
$ ./ibm-tn-sqm-gprs_core_ggsn_pm.remove
```

Follow the on-screen prompts as directed.

3. Untar the contents of the GPRS CORE GGSN Version 1.4.3 package by executing the command:

```
$ tar -xvf ibm-tn-sqm-gprs_core_ggsn_pm-1.4.3.tar
```

4. Reinstall the GPRS CORE GGSN Version 1.4.3 package to restore the GPRS CORE GGSN software:

```
$ ./ibm-tn-sqm-gprs_core_ggsn_pm.install
```

Follow the on-screen prompts as directed.

6.11 Uninstalling GPRS CORE SGSN Version 1.4.4

Note (Distributed Installation): In a distributed system, perform the procedures in this section on all servers

Complete the following as user `saserver`:

1. Change to the `/appl` directory by executing the command:

```
$ cd /appl
```

2. Execute the removal procedure using the command:

```
$ ./ibm-tn-sqm-gprs_core_sgsn_pm.remove
```

Follow the on-screen prompts as directed.

3. Untar the contents of the GPRS CORE SGSN Version 1.4.3 package by executing the command:

```
$ tar -xvf ibm-tn-sqm-gprs_core_sgsn_pm-1.4.3.tar
```

4. Reinstall the GPRS CORE SGSN Version 1.4.3 package to restore the GPRS CORE SGSN software:

```
$ ./ibm-tn-sqm-gprs_core_sgsn_pm.install
```

Follow the on-screen prompts as directed.

6.12 Restarting the GPRS Loader Processes

Note (Distributed Installation): In a distributed system, perform the procedures in this section on the Application server only

To restart the GPRS loader processes, complete the following as user `saserver`:

- Execute the commands:

```
$ sap start gprs_ran_pm_loader
$ sap start gprs_e2e_at_loader
$ sap start gprs_gb_pp_loader
$ sap start gprs_core_ggsn_pm_loader
$ sap start gprs_core_sgsn_pm_loader
```

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