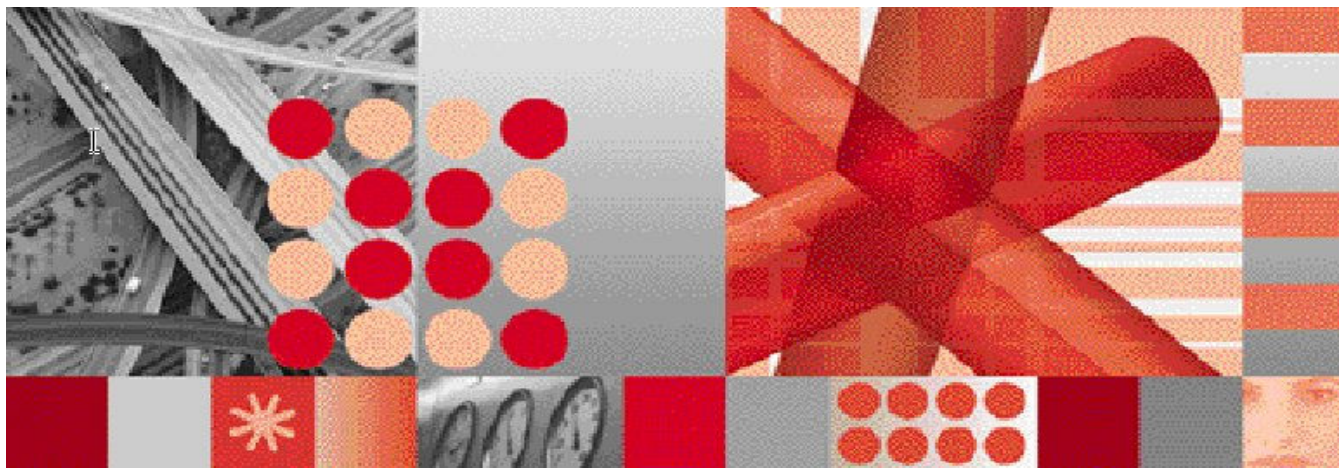**Tivoli.** **Netcool Customer Experience Manager Module for SMS Service**

IBM

Version 1.3

Installation Guide

Note: Before using this information and the product it supports, read the information in Notices on page 35.

This edition applies to version 1 release 3 of IBM Tivoli Netcool Customer Experience Manager Module for SMS Service (Product Number 5724-V48) and to all subsequent releases and modifications until otherwise indicated in new editions.

Contents

1 About this publication

The *IBM Tivoli Netcool Customer Experience Manager Module for SMS Service* version 1.3 *Installation Guide* details the steps required to install the IBM® Tivoli® Netcool® Customer Experience Manager Module for short message service (SMS) Service version v1.3, running on Tivoli Netcool Service Quality Manager version 4.1.3.

1.1 Intended audience

This publication is for customers who need to install the Tivoli Netcool Customer Experience Manager Module for SMS Service version 1.3.

Readers need to be familiar with the following topics:

- Telecommunication and information technology (IT) principles

- IP networking

- Good understanding of UNIX® operating systems

1.2 What this publication contains

This publication contains the following chapters:

- Chapter 2 "Installation parameters and server setup"

  Provides a description of the installation parameters and possible values.

- Chapter 3 "Installing the Global Object Model (GOM)"

  Provides the steps required to install the GOM.

- Chapter 4 "Installing the Tivoli Netcool Customer Experience Manager Module for SMS Service"

  Provides the steps required to install the Tivoli Netcool Customer Experience Manager Module for SMS Service.

- Chapter 5 "Uninstalling the Tivoli Netcool Customer Experience Manager Module for SMS Service"

  Provides the steps required to uninstall the Tivoli Netcool Customer Experience Manager Module for SMS Service.

  This publication contains the following appendices:

- Appendix A "Optional procedures"

  Provides the following optional procedures:

- Adjusting data input data retention
- Adjusting Service Module configuration parameters
- Adjusting collector pattern expressions
- Backup and restore of the adp_deploy.xml file.

- Appendix B " Troubleshooting"

  Provides details on some common error and warning scenarios.

- Appendix C "Product acronyms"

  Provides a description of product acronyms.

1.3 Publications

This section lists the following publications:

- IBM Tivoli Netcool Service Quality Manager core library
- IBM Tivoli Netcool Customer Experience Manager Module for SMS Service library

It also describes how to access Tivoli publications online and how to order Tivoli publications.

IBM Tivoli Netcool Service Quality Manager core library

- *IBM Tivoli Netcool Service Quality Manager AIX Server Installation Guide,* GC23-9847-00

  Describes how to install the Service Quality Manager Server system on IBM AIX®.

- *IBM Tivoli Netcool Service Quality Manager Solaris Server Installation Guide,* GC23-9846-00

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

- *IBM Tivoli Netcool Service Quality Manager Client Installation Guide,* GC23-9850-00

  Describes how to install the Service Quality Manager client.

- *IBM Tivoli Netcool Service Quality Manager Upgrade Guide,* SC23-9842-00

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

- *IBM Tivoli Netcool Service Quality Manager AIX System Administration Guide, SC23-9845-00*

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

  o Starting and stopping Service Quality Manager.

  o Running batch processes such as archiving trace files and log files.

  o Backing up and restoring the system.

- *IBM Tivoli Netcool Service Quality Manager Solaris System Administration Guide, SC23-9844-00*

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

  o Starting and stopping Service Quality Manager.

  o Running batch processes such as archiving trace files and log files.

  o Backing up and restoring the system.

- *IBM Tivoli Netcool Service Quality Manager Provisioning Service SI Guide*, SC23-9852-00

Reference guide containing information for provisioning the Tivoli Netcool Service Quality Manager system.

- *IBM Tivoli Netcool Service Quality Manager Customer Experience Manager Provisioning Guide, SC23-9843-00*

Provides information for provisioning the Customer Experience Manager system.

- *IBM Tivoli Netcool Service Quality Manager Customer Experience Manager Monitoring Guide, SC23-9482-00*

Describes how to use and monitor the Customer Experience Manager feature in Service Quality Manager.

- *IBM Tivoli Netcool Service Quality Manager Monitoring Guide, SC23-9103-01*

Describes monitoring (Service level agreement (SLA) monitor, Key quality indicator (KQI) analyzer, alarm monitor, audit manager and SLA Webview applications) in Service Quality Manager.

- *IBM Tivoli Netcool Service Quality Manager Configuration Guide, SC23-9102-01*

Describes SLA provisioning (parties, service level agreement (SLAs), and SLA templates applications) and Service Quality Manager provisioning (service resources, key quality indicator (KQI) models, and service module applications) in Service Quality Manager.

- *IBM Tivoli Netcool Service Quality Manager Business Objects Installation and Configuration Guide, SC23-9473-00*

Provides information on the steps required to install and configure the BusinessObjects server and client for use with Service Quality Manager.

- *IBM Tivoli Netcool Customer Experience Manager Customer Relationship Management Development Guide, SC23-9857-00*

Provides an overview of how to write some Java™ code to connect to a customer relationship management system with the Tivoli Netcool Customer Experience Manager product.

- *IBM Tivoli Netcool Service Quality Manager Release Notes, GI11-9221-00*

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

IBM Tivoli Netcool Customer Experience Manager Module for SMS Service library

- *IBM Tivoli Netcool Customer Experience Manager Module for SMS Service version 1.3 Installation Guide*

Provides the steps required to install the Tivoli Netcool Customer Experience Manager Module for SMS Service and its data sources.

- *IBM Tivoli Netcool Customer Experience Manager Module for SMS Service Overview Guide*

Provides an overview of the Tivoli Netcool Customer Experience Manager Module for SMS Service product architecture.

- *IBM Tivoli Netcool Customer Experience Manager Module for SMS Service Interface Control Guide*

Provides details of the Tivoli Netcool Customer Experience Manager Module for SMS Service input interface.

- *IBM Tivoli Netcool Customer Experience Manager Module for SMS Service version 1.3 Release Notes*

Provides information on the Tivoli Netcool Customer Experience Manager Module for SMS Service version 1.3 release contents, platform requirements, installation procedures, and known issues.

Prerequisite publications

To use the information in this publication effectively, you must have some prerequisite knowledge, which you can obtain from the following publications:

- *IBM Tivoli Netcool Customer Experience Manager Module for SMS Service Overview Guide*

Provides an overview of the Tivoli Netcool Customer Experience Manager Module for SMS Service product architecture.

- *IBM Tivoli Netcool Customer Experience Manager Module for SMS Service version 1.3 Release Notes*

Provides information on the Tivoli Netcool Customer Experience Manager Module for SMS Service version 1.3 release contents, platform requirements, installation procedures, and known issues.

Related publications

The following document also provides useful information:

- *IBM Tivoli Netcool Customer Experience Manager Module for SMS Service Interface Control Guide*

Provides details of the Tivoli Netcool Customer Experience Manager Module for SMS Service input interface.

Accessing terminology online

The IBM Terminology Web site consolidates the terminology from IBM product libraries in one convenient location. You can access the Terminology Web site at the following Web address http://www.ibm.com/software/globalization/terminology.

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 this and all other Tivoli products, as they become available and whenever they are updated, to the Tivoli Documentation Central Web site at http://www.ibm.com/tivoli/documentation.

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.

Ordering publications

You can order many Tivoli publications online at http://www.elink.ibmlink.ibm.com/publications/servlet/pbi.wss.

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

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, perform the following steps:

1. Go to http://www.elink.ibmlink.ibm.com/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.

1.4 Tivoli technical training

For Tivoli technical training information, refer to the following IBM Tivoli Education Web site at http://www.ibm.com/software/tivoli/education.

1.5 Tivoli user groups

Tivoli user groups are independent, user-run membership organizations that provide Tivoli users with information to assist them in the implementation of Tivoli Software solutions. Through these groups, members can share information and learn from the knowledge and experience of other Tivoli users. Tivoli user groups include the following members and groups:

*   23,000+ members
*   144+ groups

Access the link for the Tivoli Users Group at www.tivoli-ug.org.

1.6 Support information

If you have a problem with your IBM software, you want to resolve it quickly. IBM provides the following ways for you to obtain the support you need:

Online

Access the Tivoli Software Support site at

http://www-01.ibm.com/software/sysmgmt/products/support/index.html?ibmprd=tivman.

Access the IBM Software Support site at: http://www.ibm.com/software/support/probsub.html.

IBM Support Assistant

The IBM Support Assistant is a free local software serviceability workbench that helps you resolve questions and problems with IBM software products. The Support Assistant provides quick access to support-related information and serviceability tools for problem determination. To install the Support Assistant software, go to http://www.ibm.com/software/support/isa.

Troubleshooting information

See *Appendix A Optional procedures* in the *IBM Tivoli Netcool Customer Experience Manager Module for SMS Service Installation Guide*, it provides the following optional procedures:

- Adjusting data input data retention
- Adjusting Service Module configuration parameters
- Adjusting collector pattern expressions
- Backup and restore of the adp_deploy.xml file.

For more information about solving problems, see *Appendix B Troubleshooting* in the *IBM Tivoli Netcool Customer Experience Manager Module for SMS Service Installation Guide*.

1.7 Conventions used in this guide

This publication uses several conventions for special terms and actions, operating system-dependent commands and paths, and margin graphics.

Typeface conventions

This publication uses the following typeface conventions:

Bold

- Lowercase commands and mixed case commands that are otherwise difficult to distinguish from surrounding text.
- Interface controls (check boxes, push buttons, radio buttons, spin buttons, fields, folders, icons, list boxes, items inside list boxes, multicolumn lists, containers, menu choices, menu names, tabs, property sheets), labels (such as **Tip**:, and **Operating system considerations**:)
- Keywords and parameters in text.

Italics

- Citations (examples: titles of publications, diskettes, and CDs)
- Words defined in text (example: a nonswitched line is called a *point-to-point line*)
- Emphasis of words and letters (words as words example: "Use the word *that* to introduce a restrictive clause."; letters as letters example: "The LUN address must start with the letter *L*.")
- New terms in text (except in a definition list): a *view* is a frame in a workspace that contains data.
- Variables and values you must provide…. where *myname* represents….. .

`Monospace`

- Examples and code examples.
- File names, programming keywords, and other elements that are difficult to distinguish from surrounding text.
- Message text and prompts addressed to the user.
- Text that the user must type.
- Values for arguments or command options.

Operating system-dependent variables and paths

This publication uses the UNIX convention for specifying environment variables and for directory notation. When using the Windows® command line, replace $*variable* with %*variable*% for environment variables and replace each forward slash (/) with a backslash (\) in directory paths. The names of environment variables are not always the same in the Windows and UNIX environments. For example, %TEMP% in Windows environments is equivalent to $TMPDIR in UNIX environments.

Note: If you are using the bash shell on a Windows system, you can use the UNIX conventions.

2 Installation parameters and server setup

2.1 Installation parameters

Where applicable in the following chapters, replace the parameters described in Table 1 with actual values in the following sections.

Table 1: Description of parameters

Parameter	Description
`<owner_user>`	The user ID associated with ownership rights to the IBM Tivoli Netcool Service Quality Manager database, typically `saowner`.
`<owner_pwd>`	This password is associated with the `saowner` user.
`<user_pwd>`	This password is associated with the saserver user.
`<sadb>`	The database SID for the IBM Tivoli Netcool Service Quality Manager installation.

2.2 Server components

The Service Quality Manager server architecture consists of three components. The components can be installed together on a single, consolidated server or set up across multiple servers, to form a distributed system.

Table 2: Server Descriptions

Parameter	Description
Application Server	The server that is installed with the Service Quality Manager software used to run a Service Quality Manager Framework.
Gateway Server	The server that is installed with Service Quality Manager software which handles the processing of Service Module data.
Database Server	The server that is installed with the Oracle database and the Service Quality Manager data store.
Report server	The server that is installed with the BusinessObjects reporting tool software

3 Installing the Global Object Model (GOM)

Note (for distributed Installations): In a distributed system, complete the procedures in this chapter on the application server only.

Note (for consolidated installations): All procedures listed in this chapter apply to a consolidated, single-server installation unless otherwise stated.

Note: GOM version 1.5 or later is required. If 1.5 or later version of the GOM is already provisioned, then proceed to chapter 4. Execute the following command on the application server as user saserver to determine whether a GOM version is already provisioned:

```
$ package_mgmt -l
```

Note: If a previous version of the GOM is already provisioned, and is either version 1.1 or 1.2 then, see the *Support information* section of this guide for more details. If version 1.3 is provisioned, see the *IBM Tivoli Netcool Service Quality Manager Global Object Model User Guide* to complete the migration. Execute the following command on the application server as user saserver to determine whether a GOM version is already provisioned:

```
$ package_mgmt -l
```

3.1 Installing the GOM

Complete the following steps as user saserver:

1. Transfer the Service Quality Manager GOM package to the `<target directory>` directory on the Service Quality Manager host machine. It is recommended to use the `/appl` directory as the `<target directory>` value.

2. Execute the following command:

```
$ ${WMCROOT}/admin/common/install/scripts/deploy-service-solution -package
<target directory>/ibm-tn-sqm-cots_gom-1.7.tar.gz
```

3.   Enter '`yes`' when asked if you want to deploy the package.

4.   Enter '`yes`' when asked if you want to continue.

5. The license agreement will be displayed. Press the Enter key to scroll through the license agreement. After the license agreement is displayed, the following prompt will be displayed:

    Do you agree with the terms of this license?

    Enter '**yes**' if you agree and wish to continue with the product installation or '**no**' if you do not. If you enter '**yes**' output similar to the following will be displayed:

    Installation is complete.

    ok

    All packages installed successfully

    Please view /appl/sa/admin/logs/sa_install.log for package installation logs

3.2 Provisioning the GOM

Complete the following steps as user saserver:

1. Check the list of processes running by executing the following command:

    ```
    $ sap disp -l
    ```

2. Stop the monitoring, adapter and Customer Experience Manager process groups by executing the following commands:

    $ sap stop monitoring

    $ sap stop -f adapters

    $ sap stop cem

3. If any of the domain and client processes are not running, contact Service Quality Manager system administration to start these processes.

4. Provision the GOM by executing the following command:

    $ package_mgmt -i cots_gom_1.7

    On successful completion the command will display the following:

    BUILD SUCCESSFUL

    Total time: n seconds

---

4 Installing the Tivoli Netcool Customer Experience Manager Module for SMS Service

Note (for distributed installations): In a distributed system, perform the procedures in this section on the application server only.

4.1 Determining the TNSQM Software Version

Note (distributed installation): In a distributed system, complete the procedures in this section on the application server.

Determine the TNSQM Software Version by executing the following command

```
$ sap version
```

The following is an example of the output of this command :

```
Baseline Version:

IBM SQM4.1.3.60

Current Version:

SQM4.1.3.60
```

The TNSQM Software Version is indicated under "Current Version". The Minimum Current Version needed for this model is 'SQM4.1.3.60'.

Determine if a previous version of the Tivoli Netcool Customer Experience Manager Module for SMS Service exists by executing the following command

```
$ package_mgmt -l
```

The following is an example of the output of this command :

```
Model Name          Model Version  Build        Model State
------------------------------------------------------------------------------------

cem_sms_gom          1.2           SCSMS1.2.0.4   Success

cem_sms_cdr          1.2           SCSMS1.2.0.4   Success
```

If there is an existing entry under 'Model Name' under for cem_sms_gom and cem_sms_cdr then follow the upgrade instructions in section 4.4 and skip the Clean Installation Instructions in sections 4.2 and 4.3.

4.2 Clean Installing the Service Module GOM Version 1.3

Note (for distributed installations): In a distributed system, perform the procedures in this section on the application server only.

4.2.1 Installing the Service Module GOM

Complete the following steps as user saserver：

1. Transfer the Customer Experience Manager Module for SMS Service GOM package `ibm-tn-cem-cem_sms_gom-1.3.tar.gz` to the `<target directory>` directory on the Service Quality Manager host computer. It is recommended to use the `/appl` directory as the `<target directory>` value.

2. Execute the following command:

    ```
    $ ${WMCROOT}/admin/common/install/scripts/deploy-service-solution -package
    <target directory>/ibm-tn-cem-cem_sms_gom-1.3.tar.gz
    ```

3. Enter '`yes`' when asked if you wish to deploy the package.

4. Enter '`yes`' when asked if you wish to continue.

    The license agreement will be displayed. Press the Enter key to scroll through the license agreement. After the license agreement has been displayed, the following prompt will be displayed:

    ```
    Do you agree with the terms of this license?
    ```

    Enter '`yes`' if you agree and wish to continue with the product installation or '`no`' if you do not. If you enter '`yes`' output similar to the following will be displayed:

    ```
    Installation is complete.

        ok

        All packages installed successfully

        Please view /appl/sa/admin/logs/sa_install.log for package installation logs
    ```

4.2.2 Provisioning the Service Module GOM

The following tasks load the Service Module GOM provisioning into the system.

Complete the following steps as user saserver：

1. Check the list of processes running by executing the command:

    ```
    $ sap disp –l
    ```

2. Stop the monitoring, adapter, and Customer Experience Manager process groups by executing the following commands:

    ```
    $ sap stop monitoring
    ```

    ```
    $ sap stop -f adapters
    ```

    ```
    $ sap stop cem
    ```

3. If any of the domain and client processes are not running, contact Service Quality Manager system administration to start these processes.

4. Provision the system by executing the command:

    ```
    $ package_mgmt -i cem_sms_gom_1.3
    ```

    On successful completion the command will display the following:

    ```
    BUILD SUCCESSFUL
    ```

    ```
    Total time: n seconds
    ```

4.3 Clean Installing the Tivoli Netcool Customer Experience Manager Module for SMS Service data sources Version 1.3

Note: Ensure section 4.1 is completed prior to beginning this section.

4.3.1 Pre-installation

Note (for distributed installations): In a distributed system, perform the procedures in this section on the application, gateway, and database servers.

Complete the following as user saserver:

1. Transfer the Tivoli Netcool Customer Experience Manager Module for SMS Service data source package `ibm-tn-cem-cem_sms_cdr-1.3.tar.gz` to the `<target directory>` directory on the Service Quality Manager host computer. It is recommended to use the `/appl` directory as the `<target directory>` value.

2. Execute the following command:

    ```
    $ ${WMCROOT}/admin/common/install/scripts/deploy-service-solution -package
    <target directory>/ibm-tn-cem-cem_sms_cdr-1.3.tar.gz
    ```

3. Enter '`yes`' when asked if you wish to deploy the package.

4. Enter '`yes`' when asked if you wish to continue.

5. The license agreement will be displayed. Press the Enter key to scroll through the license agreement. After the license agreement has been displayed, the following prompt will be displayed:

```
Do you agree with the terms of this license?
```

Enter '`yes`' if you agree and wish to continue with the product installation or '`no`' if you do not. If you enter '`yes`' output similar to the following will be displayed:

```
Installation is complete.

ok

All packages installed successfully

Please view /appl/sa/admin/logs/sa_install.log for package installation logs
```

4.3.2 Creating tablespaces

Note (for distributed installations): In a distributed system, complete the procedures in this section on the database server.

Complete the following steps as user `saserver`:

- Create the Service Module tablespace by executing the commands:

```
$ cd ${WMCROOT}/admin/oracle/bin

$ ./create_db_tablespace -sid <sadb> -dbowneruser saserver -dbownerpwd '<user_pwd>'
-name cem_sms_cdr_1.3
```

ensuring that the saserver password `<user_pwd>` is enclosed in single quotes ''.

Note : Creation of the tablespace may take some time.

On successful completion, the command will display the following:

```
Database Tablespace Created Successfully
```

4.3.3 Provision the system

Note (for distributed installations): In a distributed system, perform the procedures in this section on the application server only.

Use the following tasks to load the Customer Experience Manager Service Module provisioning within the system.

Complete the following as user saserver：

1. Check the list of processes running by executing the command:

   ```
   $ sap disp -l
   ```

2. Stop the monitoring, adapter and Customer Experience Manager process groups by executing the following commands:

   ```
   $ sap stop monitoring

   $

   $ sap stop cem
   ```

3. If any of the domain and client processes are not running, contact Service Quality Manager system administration to start these processes.

4. Provision the system by executing the command:

   ```
   $ package_mgmt -i cem_sms_cdr_1.3
   ```

   On successful completion the command will display the following:

   ```
   BUILD SUCCESSFUL

   Total time: n seconds
   ```

4.3.4 Creating adapter database tables

Note (for distributed installations): Perform the procedures in this section on the database server.

Note: Contact your Tivoli Netcool Service Quality Manager administrator for the correct passwords.

Complete the following as user saserver：

1. Create the adapter database tables by executing the command[2]:

   ```
   $ wmc_ant -Dsa.package=cem_sms_cdr_1.3 -f ${WMCROOT}/packages/adp_deploy.xml -Ddb.pwd=<user password> do-schema
   ```

2. On successful completion the command will output the following:

   ```
   [exec] -.... sadb cem_sms_cdr_1.3 Schema Creation completed successfully

   [exec] .... Log file is located in

       /appl/sa/admin/logs/db_createschema_cem_sms_cdr_1.2.log
   ```

---

[2] Please note that the command can require a large amount of time to run depending on your system configuration.

```
BUILD SUCCESSFUL

Total time: n minutes n seconds
```

3. Check log file `${WMCROOT}/admin/logs/db_createschema_cem_sms_cdr_1.3.log` for any errors. If any errors then, see the *Support information* section of this guide for more details.

4.3.5 Deploying the loader

Note (for distributed installations): In a distributed system, perform the procedures in this section on the gateway server only.

Complete the following as user saserver:

1. Deploy the loader by executing the command:

    ```
    $ wmc_ant -Dsa.package=cem_sms_cdr_1.3 -f ${WMCROOT}/packages/adp_deploy.xml do-
    gateway-deploy
    ```

    Note: If you encounter any errors or warnings, refer to *Appendix B Troubleshooting.*

    On successful completion the command will output the following:

    ```
    BUILD SUCCESSFUL

    Total time: n seconds
    ```

2. Verify that the loader data directory is created by viewing the content of the following collector configuration file:

    `${WMCROOT}/conf/adapter/collector/cem_sms_cdr_loader.properties`

    To find the value of the property that represents the full directory path of the adapter data directory, check the value of the following variable:

    `com.comnitel.sm.adapter.collector.input.directory`

    If the value of the adapter data directory property contains an environment variable name such as `${SAVARDIR}`, the correct value of such variables can be found in this file:

    `${WMCROOT}/conf/environment/default.properties`

    If the adapter data directory is not created it is not necessary to re-execute any of the preceding steps. Instead create the missing directories manually using the `mkdir` command, for example:

    `$ mkdir ${WMCROOT}/var/adapter/cem_sms_cdr_loader`

4.3.6   Deploy the adapter configuration (for distributed installations)

Note (for distributed installations): This section should only be performed for a distributed installation. **For a consolidated system, this section can be ignored**. Complete these steps on the application server.

Complete the following steps as user saserver:

1. Deploy the loader by executing the command:

   ```
   $ wmc_ant -Dsa.package=cem_sms_cdr_1.3 -f ${WMCROOT}/packages/adp_deploy.xml do-
   application-deploy
   ```

   On successful completion the command will output the following:

   ```
   BUILD SUCCESSFUL

   Total time: n seconds
   ```

2. Edit the file `${WMCROOT}/conf/processes/processes-cem_sms_cdr_loader.properties`. Replace the reference to `${SAHOST}` with the name of the gateway server upon which the loader will be running.

4.3.7   Updating psmt configuration

Note : Only perform the procedures in this section if the TNSQM Current Version is greater than 4.1.2.20..

Note (distributed installation): In a distributed system, perform the procedures in this section only on the application server.

Complete the following steps as user `saserver`:

1. Ensure that the file `${WMCROOT}/conf/service/dom/psmt.properties` contains the following entry, adding it if necessary :

   ```
   psmt.xml.model.directory=${WMCROOT}/conf/service/cem/adapters
   ```

4.3.8   Restarting the sapmgr process

Note (for distributed installations): In a distributed system, perform the procedures in this section on the application server.

Complete the following steps as user saserver：

1. Restart the `sapmgr` process to pick up the newly instantiated loader.

   ```
   $ sapmgr stop
   ```
   ```
   $ sapmgr start
   ```

   When the `sapmgr` process is successfully restarted, proceed with the next steps.

2. Ensure the loader is available by executing the command:

```
$ sap disp
```

3. Start the monitoring processes and Customer Experience Manager processes, if required (see output from previous step to determine if these processes are already running).

```
$ sap start monitoring
```

```
$ sap start cem
```

4.3.9   Starting the loader

Note (for distributed installations): In a distributed system, perform the procedures in this section on either the gateway server or application server.

Enter the following command as user saserver：

```
$ sap start cem_sms_cdr_loader
```

For any error and warning messages which appear when starting the adapter, refer to *Appendix B Troubleshooting*.

Section 4.4 and 4.5 are for Upgrades only, skip if after performing a clean Install.

4.4 Upgrading the Service Module GOM from Version 1.2 to Version 1.3

Note (for distributed installations): In a distributed system, perform the procedures in this section on the application server only.

Note : Before attempting to upgrade to Tivoli Netcool Customer Experience Manager Module for SMS Service Version 1.3 the user must first check that the 'Build' is at "SCSMS1.2.0.4". Use the package_mgmt –l command as indicated in section 4.1 to discover the Build Version. The 'Build' Version of "SCSMS1.2.0.4" corresponds to the Tivoli Netcool Customer Experience Manager Module for SMS Service Interim Version 1.2 Fix 00001 which is a prerequisite load for the upgrade.

4.4.1 Upgrading the Service Module GOM from Version 1.2 to Version 1.3

Complete the following steps as user saserver：

1. Transfer the Customer Experience Manager Module for SMS Service GOM package `ibm-tn-cem-cem_sms_gom-1.3.tar.gz` to the `<target directory>` directory on the Service Quality

Manager host computer. It is recommended to use the `/appl` directory as the `<target directory>` value.

2. Execute the following command:

    ```
    $ ${WMCROOT}/admin/common/install/scripts/deploy-service-solution -package
    <target directory>/ibm-tn-cem-cem_sms_gom-1.3.tar.gz
    ```

3. Enter '`yes`' when asked if you wish to deploy the package.

4. Enter '`yes`' when asked if you wish to continue.

    The license agreement will be displayed. Press the Enter key to scroll through the license agreement. After the license agreement has been displayed, the following prompt will be displayed:

    ```
    Do you agree with the terms of this license?
    ```

    Enter '`yes`' if you agree and wish to continue with the product installation or '`no`' if you do not. If you enter '`yes`' output similar to the following will be displayed:

    ```
    Installation is complete.

        ok

    All packages installed successfully

    Please view /appl/sa/admin/logs/sa_install.log for package installation logs
    ```

4.4.2 Provisioning the Service Module GOM

The following tasks load the Service Module GOM provisioning into the system.

Complete the following steps as user saserver:

1. Check the list of processes running by executing the command:

    ```
    $ sap disp -l
    ```

2. Stop the monitoring, adapter, and Customer Experience Manager process groups by executing the following commands:

    ```
    $ sap stop monitoring
    ```

    ```
    $ sap stop -f adapters
    ```

    ```
    $ sap stop cem
    ```

3. If any of the domain and client processes are not running, contact Service Quality Manager system administration to start these processes.

4. Provision the system by executing the command:

```
$ package_upgrade -t cem_sms_gom_1.3 -s cem_sms_gom_1.2
```

On successful completion the command will display the following:

```
BUILD SUCCESSFUL
```

```
Total time: n seconds
```

4.5 Upgrading the Tivoli Netcool Customer Experience Manager Module for SMS Service data sources from Version 1.2 to Version 1.3

Note: Ensure section 4.4 is completed prior to beginning this section.

4.5.1 Pre-installation

Note (for distributed installations): In a distributed system, perform the procedures in this section on the application, gateway, and database servers.

Complete the following as user saserver:

1. Transfer the Tivoli Netcool Customer Experience Manager Module for SMS Service data source package **ibm-tn-cem-cem_sms_cdr-1.3.tar.gz** to the **<target directory>** directory on the Service Quality Manager host computer. It is recommended to use the **/appl** directory as the **<target directory>** value.

2. Execute the following command:

```
$ ${WMCROOT}/admin/common/install/scripts/deploy-service-solution -package
<target directory>/ibm-tn-cem-cem_sms_cdr-1.3.tar.gz
```

3. Enter '**yes**' when asked if you wish to deploy the package.

4. Enter '**yes**' when asked if you wish to continue.

5. The license agreement will be displayed. Press the Enter key to scroll through the license agreement. After the license agreement has been displayed, the following prompt will be displayed:

```
Do you agree with the terms of this license?
```

Enter '**yes**' if you agree and wish to continue with the product installation or '**no**' if you do not. If you enter '**yes**' output similar to the following will be displayed:

```
Installation is complete.
```

```
ok
```

```
All packages installed successfully
```

```
Please view /appl/sa/admin/logs/sa_install.log for package installation logs
```

4.5.2 Un-provisioning the Version 1.2 data source

Note (for distributed installations): In a distributed system, complete the procedures in this section on the application server only.

Complete the following as user saserver:

- To un-provision the provisioned artifacts execute the following command:

```
$ package_mgmt -c cem_sms_cdr_1.2
```

On successful completion, the command will display the following:

```
BUILD SUCCESSFUL

Total time: n seconds
```

4.5.3 Cleaning the gateway server artifacts

Note (for distributed installations): In a distributed system, complete the procedures in this section on the gateway server.

Complete the following steps as user saserver:

1. Execute the following command:

```
$ wmc_ant -Dsa.package=cem_sms_cdr_1.2 -f ${WMCROOT}/packages/adp_deploy.xml do-
gateway-clean
```

On successful completion the command will output the following:

```
BUILD SUCCESSFUL

Total time: n seconds
```

4.5.4 Cleaning the application server artifacts

Note (for distributed installations) : Complete the procedures in this section only on the application server. This is only required in the case of a distributed installation.

Complete the following as user saserver:

1. Enter the following command:

```
$ wmc_ant -Dsa.package=cem_sms_cdr_1.2 -f ${WMCROOT}/packages/adp_deploy.xml do-
application-clean
```

On successful completion the command will output the following:

```
BUILD SUCCESSFUL

Total time: n seconds
```

4.5.5 Provision the Version 1.3 system

Note (for distributed installations): In a distributed system, perform the procedures in this section on the application server only.

Use the following tasks to load the Customer Experience Manager Service Module provisioning within the system.

Complete the following as user saserver:

1. If any of the domain and client processes are not running, contact Service Quality Manager system administration to start these processes.

2. Provision the system by executing the command:

    ```
    $ package_mgmt -i cem_sms_cdr_1.3
    ```

    On successful completion the command will display the following:

    ```
    BUILD SUCCESSFUL

    Total time: n seconds
    ```

4.5.6 Deploying the loader

Note (for distributed installations): In a distributed system, perform the procedures in this section on the gateway server only.

Complete the following as user saserver:

3. Deploy the loader by executing the command:

    ```
    $ wmc_ant -Dsa.package=cem_sms_cdr_1.3 -f ${WMCROOT}/packages/adp_deploy.xml do-
    gateway-deploy
    ```

    Note: If you encounter any errors or warnings, refer to *Appendix B Troubleshooting*.

    On successful completion the command will output the following:

    ```
    BUILD SUCCESSFUL

    Total time: n seconds
    ```

4. Verify that the loader data directory is created by viewing the content of the following collector configuration file:

```
${WMCROOT}/conf/adapter/collector/cem_sms_cdr_loader.properties
```

To find the value of the property that represents the full directory path of the adapter data directory, check the value of the following variable:

```
com.comnitel.sm.adapter.collector.input.directory
```

If the value of the adapter data directory property contains an environment variable name such as `${SAVARDIR}`, the correct value of such variables can be found in this file:

```
${WMCROOT}/conf/environment/default.properties
```

If the adapter data directory is not created it is not necessary to re-execute any of the preceding steps. Instead create the missing directories manually using the `mkdir` command, for example:

```
$ mkdir ${WMCROOT}/var/adapter/cem_sms_cdr_loader
```

4.5.7   Deploy the adapter configuration (for distributed installations)

Note (for distributed installations): This section should only be performed for a distributed installation. **For a consolidated system, this section can be ignored**. Complete these steps on the application server.

Complete the following steps as user saserver:

1. Deploy the loader by executing the command:

```
$ wmc_ant -Dsa.package=cem_sms_cdr_1.3 -f ${WMCROOT}/packages/adp_deploy.xml do-
application-deploy
```

On successful completion the command will output the following:

```
BUILD SUCCESSFUL

Total time: n seconds
```

2. Edit the file `${WMCROOT}/conf/processes/processes-cem_sms_cdr_loader.properties`. Replace the reference to `${SAHOST}` with the name of the gateway server upon which the loader will be running.

4.5.8   Restarting the sapmgr process

Note (for distributed installations): In a distributed system, perform the procedures in this section on the application server.

Complete the following steps as user saserver:

1. Restart the `sapmgr` process to pick up the newly instantiated loader.

   `$ sapmgr stop`

   `$ sapmgr start`

   When the `sapmgr` process is successfully restarted, proceed with the next steps.

2. Ensure the loader is available by executing the command:

   `$ sap disp`

3. Start the monitoring processes and Customer Experience Manager processes, if required (see output from previous step to determine if these processes are already running).

   `$ sap start monitoring`

   `$ sap start cem`

4.5.9   Starting the loader

Note (for distributed installations): In a distributed system, perform the procedures in this section on either the gateway server or application server.

Enter the following command as user saserver：

`$ sap start cem_sms_cdr_loader`

For any error and warning messages which appear when starting the adapter, refer to *Appendix B Troubleshooting*.

4.6 Installing BusinessObjects reports

The Tivoli Netcool Customer Experience Module for SMS Service includes pre-defined reports for the BusinessObjects reporting tools.

Note: Unless otherwise specified, the procedures in this section must be performed on the designated BusinessObjects server only.

4.6.1   Prerequisite

BusinessObjects XI release 2 server with Oracle client software must be installed and configured.

Note (for distributed installations): In a distributed system, the `report.zip` file is available either on the gateway server or the application server.

Copy the `$WMCROOT/packages/cem_sms_cdr_1.3/report.zip` file, as user saserver, from your Tivoli Netcool Customer Experience Manager server to the BusinessObjects server instance using ftp or other methods available.

4.6.2 Defining the service name using Oracle Net Manager

If the core reports or any other service model set of reports have been deployed, then use the existing service name for the connection to the SADB database. If this is the first set of reports being deployed, create an Oracle service name by completing the following steps:

1. To connect the BusinessObjects software with the `sadb` database server, create an Oracle service name (also called protocol address) in the BusinessObjects server, before exporting BusinessObjects artifacts.

   The BusinessObjects universe uses this service name in its connection and reports refresh against the database that this service name points to.

2. To create a new service name in Oracle, use the Oracle Net Manager tool provided in the Oracle client installed on the BusinessObjects server.

   See the *Configuring Clients for Oracle Connection Manager* chapter in the *Configuring and Administering Oracle Connection Manager* guide in the Oracle 10g online documentation available at http://download.oracle.com/docs/cd/B19306_01/network.102/b14212/cman.htm#i484544.

4.6.3 Extracting BusinessObjects deliverables

Ensure all prerequisites are met before extracting BusinessObjects deliverables. To copy the BusinessObjects deliverable to the BO server, complete the following steps:

1. Create a new destination directory for the contents of the BusinessObjects deliverables.

2. Transfer and unzip the `report.zip` file to the destination directory.

Depending on the contents of the BusinessObjects deliverable, some or all of the following directories can be created when the `report.zip` file is unzipped:

- `bo/logos`

- `bo/lovs`

- `bo/reports`

- `bo/universes`

4.6.4 Applying the logo file

A logo graphic appears in each report and must be added to the BusinessObjects server. To apply the logo file, complete the following steps:

1. Open the directory where the `report.zip` file was extracted to (completed in the *Extracting BusinessObjects deliverables* section).

2 Copy the `Tivoli.jpg` file from the `bo/logos` directory to the following directory:

> **<BO_INSTALL_DRIVE>\Program Files\Business Objects\BusinessObjects Enterprise 11.5\Images**

Note: `<BO_INSTALL_DRIVE>` denotes the drive where the BusinessObjects applications are installed (the default drive is `C:`).

4.6.5   Associating LOV files with universe

Note: List of values (LOV) files are not available for every service module. If the `bo/lovs` directory does not exist, do not complete the following steps.

Before exporting the universe to the BusinessObjects repository, LOV files must be in the same folder as the universe. To comply with this requirement, complete the following steps:

1. Open the directory where the `report.zip` file was extracted to (see the *Extracting BusinessObjects deliverables* section).
2. Copy all contents of the `bo/lovs` directory to the `bo/universes` directory.

4.6.6   Export the universe and the list of values (LOV) files to the BusinessObjects server

Use the BusinessObjects XI Universe Designer tool to export the universe with its LOV files. To complete the export process, complete the following steps:

1. Define a new BusinessObjects connection that points to the `sadb` database.

    The `sadb` database is located in the Tivoli Netcool Customer Experience Manager server and contains the installed Tivoli Netcool Customer Experience Manager SMS Service module.

    To complete the previous step you are required to define the following parameters within the BusinessObjects connection:

    - `Database middleware:` **Oracle 10**

    - `Service:` **Oracle service name**

    - `User Name:` **saserver database user**

    - `Password:` **Oracle password for the saserver user**

    The default username and password for the `sadb` database are `saserver` and `Saserver01` respectively (if the password has changed, enter the new password as appropriate). Enter the Oracle service name as previously defined in the Defining the service name using Oracle Net Manager section.

Note: To complete the connection definition, see the *Setting universe parameters → Defining a new connection* subsection in chapter 2 of the *Designer's Guide* for BusinessObjects XI release 2, available at the following link: http://help.sap.com/businessobject/product_guides/

2. Open universe file (.unv) from the **bo/universes** directory.
3. Change universe connection parameters and use the new BusinessObjects connection created during step 1.
4. Save the universe with the new parameters.
5. Export the universe with its LOV files to the BusinessObjects repository.

Note: See the Exporting a universe to the repository sections in the Designer's Guide for BusinessObjects XI Release 2, at http://help.sap.com/businessobject/product_guides/.

4.6.7 Changing universes to local time format settings

Note: All universes delivered in the `report.zip` file are preset with European date formats.

If deploying on a non-European BusinessObjects system, complete the following steps:

1 Change the following objects, where applicable in the universes, to your localized time format settings:

```
Week/Day/Month-Day/Hour/Sample
```

These objects are normally found under the `Calendar` class.

2. Complete the following step to change from European to localized time formats. The following example details changing the objects for American date format.

To change the object format, right-click the different time objects for each time and select **object format**. Update the format with the following recommendations:

Objects Name = `Week`

ObjectFormat = `mm/dd/yyyy`

Object Name = `Day (or Month-Day)`

ObjectFormat = `mm/dd/yyyy`

Object Name = `Hour`

ObjectFormat `= mm/dd/yyyy hh:mm AM/PM`

Object Name = `Sample`

ObjectFormat = `mm/dd/yyyy hh:mm AM/PM`

Make these changes by using the BusinessObjects Universe Designer tool. For more details, see the Designer's Guide for BusinessObjects XI Release 2 available at http://help.sap.com/businessobject/product_guides/.

Access the Designer's Guide quickly using these filters:

- Select **all products** under **all products**.
- Select **BusinessObjects XI Release 2** under **all releases**.

4.6.8 Import reports BIAR file to the repository database

A business intelligence archive resource (BIAR) file can be found in the `bo/reports` folder. The BIAR file contains all the reports for the Tivoli Netcool Customer Experience Manager SMS Service and must be deployed to the BusinessObjects server.

To import the BIAR file into the BusinessObjects server, use the BusinessObjects Import Wizard tool. For details on how to use this tool, refer to the section *Using the Import Wizard* in chapter 13 of the Windows *BusinessObjects Enterprise XI Release 2 Installation Guide* for BusinessObjects XI Release 2, available at http://help.sap.com/businessobject/product_guides/.

Access the Windows BusinessObjects Enterprise XI Release 2 Installation Guide quickly using these filters:

- Select **BusinessObjects Enterprise** under **all products**.
- Select **BusinessObjects XI Release 2** under **all releases**.

When importing the BIAR file, select the following options:

a. In the **Source environment** display screen, select **Business Intelligence Archive Resource (BIAR) File** in the combo box and browse to the file in the *BIAR File* section.

b. In the **Destination environment** display screen, type the name of the BusinessObjects central management server (CMS) and the username and password.

c. In the **Select objects to import** display screen, select the following two options:

   o **Import folders and objects**

   o **Import application folders and objects**

d. In the **Incremental import** display screen, keep the **Overwrite object contents** check box checked and uncheck the **Overwrite object rights** check box.

e. In the **Folders and objects** display screen, select **all the reports**.

4.6.9 Checking the BusinessObjects reports installation

When the reports are imported to the BusinessObjects server, check that they are installed and available in the server by completing the following steps:

- Open BusinessObjects Infoview in a browser. The default URL is:

   http://*<BO_SERVER>*:8080/businessobjects/enterprise115/desktoplaunch

Note: *<BO_SERVER>* is the name of the server that the BusinessObjects platform is installed on.

- Navigate through **Public Folders > TNCEM>SMS>** in the **Folders** menu on the left. The content of the last folder should contain the following reports:

   o   SMS Service Summary per Customer

   o   SMS Service Summary per Customer Group

   o   SMS Service Summary per Device

Note: To set up the authorization rights assigned to the report folder created in the BusinessObjects server during the installation, see the Tivoli Netcool Service Quality Manager and Tivoli Netcool Customer Experience Manager installation and configuration guides.

5 Uninstalling the Tivoli Netcool Customer Experience Manager Module for SMS Service

5.1 Prerequisites

Note (for distributed installations): In a distributed system, complete the procedures in this section on the application server only.

Before un-installing a Service Module, there is a requirement to delete dependent artifacts which can be created outside of the Service Module provisioning package. These artifacts are any service level agreements (SLAs), SLA templates and combined key quality indicator (KQI) models referencing a resource type defined within the Service Module, or any service-level objectives (SLOs) created using key performance indicator (KPI) metrics defined within this Service Module.

To find dependencies on the Service Module packages execute the following commands as user saserver:

```
$ package_mgmt -d cem_sms_cdr_1.3
```

```
$ package_mgmt -d cem_sms_gom_1.3
```

5.2 Shutdown processes

Note (for distributed installations): In a distributed system, complete the procedures in this section on the application server only.

Complete the following as user saserver:

- Shutdown the monitoring, adapter and Customer Experience Manager process groups by executing the following commands:

```
$ sap stop monitoring
```

```
$ sap stop -f adapters
```

```
$ sap stop cem
```

5.3 Uninstalling the Tivoli Netcool Customer Experience Manager Module for SMS Service data sources

5.3.1 Un-provisioning the data source

Note (for distributed installations): In a distributed system, complete the procedures in this section on the application server only.

Complete the following as user saserver：

- To un-provision the provisioned artifacts execute the following command:

  ```
  $ package_mgmt -c cem_sms_cdr_1.3
  ```

On successful completion, the command will display the following:

```
BUILD SUCCESSFUL

Total time: n seconds
```

5.3.2 Dropping the data source schema

Note (for distributed installations): In a distributed system, complete the procedures in this section only on the database server.

Complete the following as user saserver：

Note : Contact your Tivoli Netcool Service Quality Manager for the correct passwords.

1. If during the installation the user followed the Upgrade path from CEM SMS Version 1.2 to Version 1.3 as documented in sections 4.4 and 4.5 then execute the following command, else skip directly to step 2

   ```
   $ cd /appl/sa/admin/oracle/schema

   $ mv cem_sms_cdr_1.2 cem_sms_cdr_1.3
   ```

2. Drop the schema associated with the data source by executing the following command[3]:

   ```
   $ wmc_ant -Dsa.package=cem_sms_cdr_1.3 -f ${WMCROOT}/packages/adp_deploy.xml -
   Ddb.pwd=<user_pwd> do-schema-clean
   ```

   On successful completion the command will display the following:

   ```
   [exec] Database Schema Dropped Successfully

   [exec] Associated logs are located in the file
   ```

---

[3] Please note that the command can require a large amount of time to run depending on your system configuration.

```
/appl/sa/admin/logs/db_dropschema_cem_sms_cdr_1.3.log
[delete] Deleting n files from
    /appl/sa/admin/oracle/schema/cem_sms_cdr_1.3


BUILD SUCCESSFUL
Total time: n minutes n seconds
```

5.3.3 Dropping tablespaces

Note (for distributed installations): In a distributed system, complete the procedures in this section on the database server.

Complete the following steps as user `saserver`:

- Create the Service Module tablespace by executing the commands:

  ```
  $ cd ${WMCROOT}/admin/oracle/bin
  ```

  ```
  $ ./drop_db_tablespace -sid <sadb> -dbowneruser saserver  -dbownerpwd '<user_pwd>'
  -name cem_sms_cdr_1.3
  ```

  ensuring that the saserver password `<user_pwd>` is enclosed in single quotes ''.

Note : Deletion of the tablespace may take some time.

On successful completion, the command will display the following:

```
Database Tablespace Dropped Successfully
```

5.3.4 Cleaning the gateway server artifacts

Note (for distributed installations): In a distributed system, complete the procedures in this section on the gateway server.

Complete the following steps as user saserver：

1. Execute the following command:

   ```
   $ wmc_ant -Dsa.package=cem_sms_cdr_1.3 -f ${WMCROOT}/packages/adp_deploy.xml do-
   gateway-clean
   ```

   On successful completion the command will output the following:

   ```
   BUILD SUCCESSFUL
   ```

```
Total time: n seconds
```

2.   Remove the processed .csv files by executing the following command:

```
$ rm -f ${WMCROOT}/var/adapter/cem_sms_cdr_loader/*.processed
```

5.3.5 Cleaning the application server artifacts

Note (for distributed installations) : Complete the procedures in this section only on the application server. This is only required in the case of a distributed installation.

Complete the following as user saserver：

1.   Enter the following command:

```
$ wmc_ant -Dsa.package=cem_sms_cdr_1.3 -f ${WMCROOT}/packages/adp_deploy.xml do-
application-clean
```

On successful completion the command will output the following:

```
BUILD SUCCESSFUL
```

```
Total time: n seconds
```

5.4 Uninstalling the Service Module GOM

Note (for distributed installations): In a distributed system, complete the procedures in this chapter on the application server only.

The following steps remove the Tivoli Netcool Customer Experience Manager Module for SMS Service Global Object Model (GOM) from the system.

Complete the following as user saserver：

1.   Un-provision the GOM by executing the following command:

```
$ package_mgmt -c cem_sms_gom_1.3
```

On successful completion, the command will display the following:

```
BUILD SUCCESSFUL
```

```
Total time: n seconds
```

5.5 Removing the Service Module GOM packages

Note: Complete the procedures in this section on the application server only.

Complete the following steps as user saserver:

1. Remove the Service Module GOM, by executing the following commands:

    ```
    $ cd ${WMCROOT}/admin/software/adapters
    ```

    ```
    $ ./ibm-tn-cem-cem_sms_gom.remove
    ```

2. Enter 'yes' when asked if you wish to continue.

    On successful execution the command will output:

    ```
    Cleaning up init scripts...

    Removing/restoring installed files...

    Checking configuration files...

    Removing empty installation directories...

    Running post-remove commands...

    Removal is complete.
    ```

3. $ rm -rf /appl/sa/packages/cem_sms_gom_1.3

5.6 Removing the Tivoli Netcool Customer Experience Manager Module for SMS Service data source packages

Note (for distributed installations): In a distributed system, complete the procedures in this section on the application, gateway and database servers.

Complete the following steps as user saserver:

1. Remove the Service Module data source by executing the following commands:

    ```
    $ cd ${WMCROOT}/admin/software/adapters
    ```

    ```
    $ ./ibm-tn-cem-cem_sms_cdr.remove
    ```

2. Enter 'yes' when asked if you wish to continue.

    On successful execution the command will output:

    ```
    Cleaning up init scripts...

    Removing/restoring installed files...

    Checking configuration files...
    ```

```
Removing empty installation directories...

Running post-remove commands...

Removal is complete.
```

3. `$ rm -rf` /appl/sa/packages/cem_sms_cdr_1.3

5.7 Restarting the processes

Note Complete the procedures in this section on the application server only.

Complete the following steps as user saserver：

1. Enter the following commands:

    ```
    $ sapmgr stop

    $ sapmgr start
    ```

2. Restart the processes shutdown before uninstall:

    ```
    $ sap start monitoring

    $ sap start cem

    $ sap start adapters
    ```

Verify that the adapter instance has uninstalled successfully, by executing the command:

```
$ sap disp -l
```

Appendix A Optional procedures

Adjusting adapter input data retention

Adapter input data is maintained for a limited period in the adapter input directory before being purged to free space. The default retention period for all adapters is seven days.

If this needs to be adjusted for a particular data source, complete the following steps as user saserver:

- Add the following parameter to the collector configuration properties file for the adapter under the `${WMCROOT}/conf/adapter/collector/` directory:

    `com.comnitel.sm.adapter.collector.fileretention=<X>`

Note: Because the purge command is based on the UNIX `find(1)` command, the system purges input files that are x+1 days old. For example, if X is 2, then files that are three days and older are purged.

Adjusting service module configuration parameters

If any configuration properties shipped with the Service Module need to be adjusted (*collector.properties* and *datasource.properties*) they need to follow the correct syntax.

Any correctly escaped special or punctuation character other than the dollar symbol '*$*' can be used. The escape character is the back-slash character '\'.

Use of the '*$*' character assumes that a matching environment variable exists in the `${WMCROOT}/conf/environment/default.properties` file.

See the table here details on how to specify the keyboard accessible special characters in the property file.

Table 3: Keyboard accessible special characters

Character	Tivoli Netcool Customer Experience Manager compatible version	Comment
!	!	
"	\"	Requires escaping
£	£	
$		Cannot be used
%	%	
^	^	
&	&	
*	*	
(	(	
)	)	
_	_	
+	+	
-	-	
=	=	
{	{	
}	}	
[	[	
]	]	
;	;	
'	\'	Requires escaping
#	#	
:	:	
@	@	
~	~	
,	,	
.	.	
/	\/	Requires escaping
<	<	
>	>	
|	|	
\	\\	Requires escaping

Adjusting collector pattern expressions

In its default configuration the adapter loader searches for comma separated value (CSV) files in the data loader directory. This can be adjusted using pattern matching of input file names by modifying the value of this property:

```
com.comnitel.sm.adapter.collector.input.pattern
```

Within the configuration file:

```
${WMCROOT}/conf/adapter/collector/<service_solution>_<datasource>_loader.properties
```

Entities specified here must conform to the Java Regular Expression (Regex) syntax. More information on this syntax can be found at http://java.sun.com/j2se/1.5.0/docs/api/java/util/regex/Pattern.html

The following is an example pattern for matching on a **.csv** file extension:

```
com.comnitel.sm.adapter.collector.input.pattern= .+\\.csv
```

Backup and restore the adp_deploy.xml file

Complete the following steps as user saserver

1. To backup the **adp_deploy.xml** file complete the following steps as saserver：

```
$ cd ${WMCROOT}/packages
```

```
$ cp adp_deploy.xml ${WMCROOT}/
```

2. To restore the **adp_deploy.xml** file execute the following commands:

```
$ cd ${WMCROOT}/packages
```

```
$ cp ${WMCROOT}/adp_deploy.xml ${WMCROOT}/packages
```

Appendix B Troubleshooting

Adapter errors and warning messages

Missing customer resource mappings map file

Some Service Modules require Custom Resource Mappings (CRMs). If a Service Module requires CRM and if the corresponding CRM map file is not available when the user is starting the Service Module loader the following error can be displayed in the log file:

```
18:10:36,370 [ResourceMappingController_cem_sms_cdr_loader0] WARN @.sm.rm.mappin
g - Unable to parse CSV file /appl/sa/var/adapter/mappings/resources/cem_sms_cd
r_cellarea.map for mapping cellareaMap.
18:10:36,371 [ResourceMappingController_cem_sms_cdr_loader0] WARN @.sm.rm.mappin
g - The following Resource Mapping could not be created: cem_sms_cdr_cellarea. C
heck implementation.
```

When the map file becomes available in the location specified in the Service Module's associated *Interface Control Guide*, the adapter will detect it and process it.

Appendix C: Product acronyms

Table 4: Description of product acronyms

Acronym	Description
CDR	Call Detail Record
CSV	Comma Separated Values
HTML	HyperText Markup Language
IP	Internet Protocol
IT	Information Technology
KQI	Key Quality Indicator
KPI	Key Performance Indicator
PDF	Portable Document Format
SLA	Service Level Agreement
SLO	Service-level Objectives
SMS	Short Message Service
XML	Extensible Markup Language

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