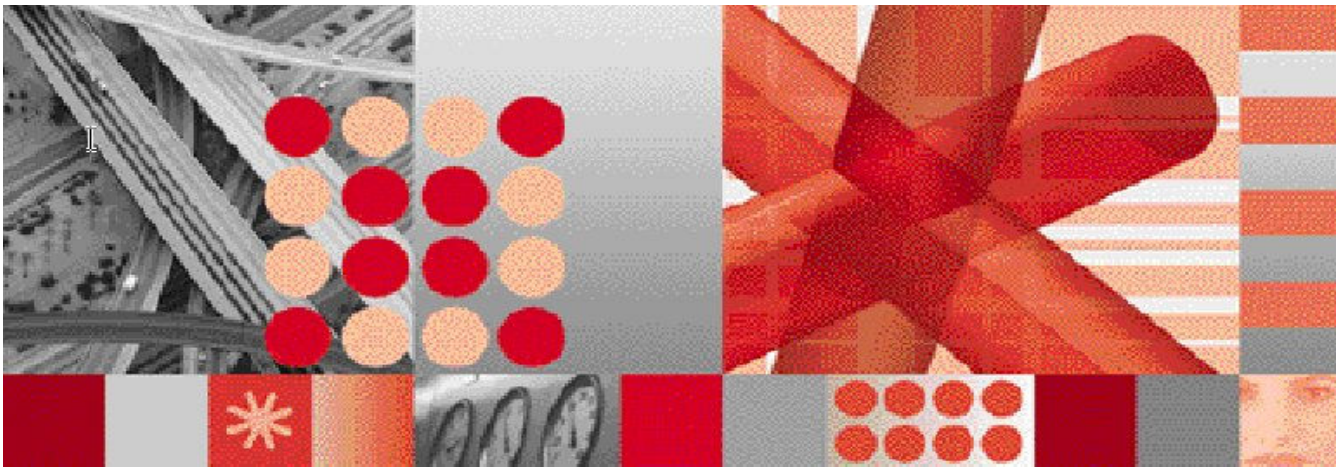
Tivoli Netcool Customer Experience Manager Module for UMTS Voice

Version 1.2 IF0003

IBM



Installation Guide

TIVOLI NETCOOL CUSTOMER EXPERIENCE MANAGER MODULE FOR UMTS VOICE SERVICE 1.2 IF0003 INSTALLATION GUIDE

Note: Before using this information and the product it supports, read the information in Notices on page 26.

This edition applies to version 1 release 2, modification IF0003 of IBM Tivoli Netcool Customer Experience Manager Module for UMTS Voice (Product Number 5724-V48) and to all subsequent releases and modifications until otherwise indicated in new editions.

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1 About this publication

The *IBM Tivoli Netcool Customer Experience Manager Module for UMTS Voice Service version 1.2 IF0003 Installation Guide* details the steps required to install the IBM® Tivoli® Netcool® Customer Experience Manager Module for UMTS Voice version v1.2 IF0003, 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 UMTS Voice version 1.2 IF0003.

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 Tivoli Netcool Customer Experience Manager Module for UMTS Voice version 1.2 IF0003"

  Provides the steps required to install the Tivoli Netcool Customer Experience Manager Module for UMTS Voice version 1.2 IF0003.

- Chapter 4 "Uninstalling the Tivoli Netcool Customer Experience Manager Module for UMTS Voice version 1.2 IF0003"

  Provides the steps required to uninstall the Tivoli Netcool Customer Experience Manager Module for UMTS Voice version 1.2 IF0003.

  This publication contains the following appendices:

- Appendix A "Product acronyms"

  Provides a description of product acronyms.

1.2 Publications

This section lists the following publications:

- IBM Tivoli Netcool Service Quality Manager core library
- IBM Tivoli Netcool Customer Experience Manager Module for UMTS Voice 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:
  - Starting and stopping Service Quality Manager.
  - Running batch processes such as archiving trace files and log files.
  - Backing up and restoring the system.
- *IBM Tivoli Netcool Service Quality Manager Solaris System Administration Guide, SC23-9844-00*

  Provides an overview of the Solaris Service Quality Manager administrative tasks including instructions on how to complete the following tasks:
  - Starting and stopping Service Quality Manager.
  - Running batch processes such as archiving trace files and log files.
  - Backing up and restoring the system.
- *IBM Tivoli Netcool Service Quality Manager Provisioning Service SI Guide*, 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 UMTS Voice library

- *IBM Tivoli Netcool Customer Experience Manager Module for UMTS Voice Service version 1.2 IF0001 Installation Guide*

  Provides the steps required to install the Tivoli Netcool Customer Experience Manager Module for UMTS Voice Service version 1.2 IF0001 and its data source.

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

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

- *IBM Tivoli Netcool Customer Experience Manager Module for UMTS Voice Interface Control Guide*

  Provides details of the Tivoli Netcool Customer Experience Manager Module for UMTS Voice input interface.

- *IBM Tivoli Netcool Customer Experience Manager Module for UMTS Voice version 1.2 IF0001 Release Notes*

  Provides information on the Tivoli Netcool Customer Experience Manager Module for UMTS Voice version 1.2 IF0001 release contents, platform requirements, installation procedures, and known issues.

- *IBM Tivoli Netcool Customer Experience Manager Module for UMTS Voice Service version 1.2 IF0001,Technical note: Installation Notice for CEM UMTS Voice version 1.2 IF0001*

Provides important information on the installation of Tivoli Netcool Customer Experience Manager Module for UMTS Voice Service version 1.2 IF0001.

- *IBM Tivoli Netcool Customer Experience Manager Module for UMTS Voice Service Solution Report Installation Guide*

  Provides the steps required to install the reports for Tivoli Netcool Customer Experience Manager Module for UMTS Voice Service version 1.2 IF0001 and its data source.

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 UMTS Voice Service Overview Guide*

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

- *IBM Tivoli Netcool Customer Experience Manager Module for UMTS Voice Service version 1.2 IF0001 Release Notes*

  Provides information on the Tivoli Netcool Customer Experience Manager Module for UMTS Voice Service version 1.2 IF0001 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 UMTS Voice Service Interface Control Guide*

  Provides details of the Tivoli Netcool Customer Experience Manager Module for UMTS Voice 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 UMTS Voice Service version 1.2 IF0001 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 UMTS Voice Service version 1.2 IF0001 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** database user.
<user_pwd>	This password is associated with the saserver database 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.

3 Installing the Tivoli Netcool Customer Experience Manager Module for UMTS Voice Service version 1.2 IF0003

Note : Tivoli Netcool Customer Experience Manager Module for UMTS Voice Service version 1.2 IF0003 may only be installed on a system where version 1.2 IF0002 has already been installed.

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

Before upgrading there is a requirement to delete any service-level objectives (SLOs) that have been created using the following key performance indicator (KPI) metrics defined within this service module :

- MO_Average_CallSetupTime
- MT_Average_CallSetupTime

These SLOs can be recreated once the upgrade is complete.

In addition any custom CEM services that include these KPI metrics must be deleted prior to the upgrade. These services can be recreated once the upgrade is complete.

To find dependencies on the service module package execute the following commands as user `saserver`:

```
$ package_mgmt -d cem_umts_voice_prb_1.2

$ package_mgmt -d cem_umts_voice_gom_1.2
```

3.1 Upgrading the Service Module GOM

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

3.1.1 Installing the Service Module GOM

Complete the following steps as user saserver:

1. Execute the following commands:

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

$ mv ibm-tn-cem-cem_umts_voice_gom.remove ibm-tn-cem-
cem_umts_voice_gom.remove.preIF0003

$ mv ibm-tn-cem-cem_umts_voice_gom.version ibm-tn-cem-
cem_umts_voice_gom.version.preIF0003
```

2. Transfer the Customer Experience Manager Module for UMTS Voice Service GOM package `ibm-tn-cem-cem_umts_voice_gom-1.2.1.1.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.
3. Execute the following command:

```
$ ${WMCROOT}/admin/common/install/scripts/deploy-service-solution -package
<target directory>/ibm-tn-cem-cem_umts_voice_gom-1.2.1.1.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
```

3.1.2 Upgrading 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_umts_voice_gom_1.2.1 -s cem_umts_voice_gom_1.2
   ```

   On successful completion the command will display the following:

   ```
   BUILD SUCCESSFUL

   Total time: n seconds
   ```

3.2 Upgrading the Tivoli Netcool Customer Experience Manager Module for UMTS Voice Service data sources

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

3.2.1 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. Execute the following commands:

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

```
$ mv ibm-tn-cem-cem_umts_voice_prb.remove ibm-tn-cem-
cem_umts_voice_prb.remove.preIF0003

$ mv ibm-tn-cem-cem_umts_voice_prb.version ibm-tn-cem-
cem_umts_voice_prb.version.preIF0003
```

2. Transfer the Tivoli Netcool Customer Experience Manager Module for UMTS Voice Service data source package `ibm-tn-cem-cem_umts_voice_prb-1.2.1.1.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.
3. Execute the following command:

```
$ ${WMCROOT}/admin/common/install/scripts/deploy-service-solution -package
<target directory>/ibm-tn-cem-cem_umts_voice_prb-1.2.1.1.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
```

3.2.2 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 –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 commands :

```
$ package_mgmt -c cem_umts_voice_prb_1.2
$ package_mgmt –i cem_umts_voice_prb_1.2.1
```

On successful completion the command will display the following:

```
BUILD SUCCESSFUL

Total time: n seconds
```

3.2.3 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 commands:

```
$ cp ${WMCROOT}/conf/adapter/data/cem_umts_voice_prb_contextdef.xml
${WMCROOT}/conf/adapter/data/cem_umts_voice_prb_contextdef.xml.preIF0003

$ cp
${WMCROOT}/packages/cem_umts_voice_prb_1.2.1/conf/adapter/data/contextdef.xml
${WMCROOT}/conf/adapter/data/cem_umts_voice_prb_contextdef.xml
```

3.2.4 Restarting the processes

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

Complete the following steps as user saserver:

1. 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

$ sap start adapters
```

4 Uninstalling the Tivoli Netcool Customer Experience Manager Module for UMTS Voice Service version 1.2 IF0003

4.1 Prerequisites

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

Before rolling back there is a requirement to delete any service-level objectives (SLOs) that have been created using the following key performance indicator (KPI) metrics defined within this service module :

- MO_Average_CallSetupTime
- MT_Average_CallSetupTime

These SLOs can be recreated once the rollback is complete.

In addition any custom CEM services that include these KPI metrics must be deleted prior to the rollback. These services can be recreated once the rollback is complete.

To find dependencies on the service module package execute the following commands as user `saserver`:

```
$ package_mgmt -d cem_umts_voice_prb_1.2.1

$ package_mgmt -d cem_umts_voice_gom_1.2.1
```

4.2 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
```

4.3 Rolling back the Tivoli Netcool Customer Experience Manager Module for UMTS Voice Service data sources

4.3.1 Rolling back 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 roll back the provisioned artifacts execute the following commands:

```
$ package_mgmt -c cem_umts_voice_prb_1.2.1
$ package_mgmt -i cem_umts_voice_prb_1.2
```

On successful completion, the command will display the following:

```
BUILD SUCCESSFUL

Total time: n seconds
```

4.3.2 Rolling back 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:

```
$ cp ${WMCROOT}/conf/adapter/data/cem_umts_voice_prb_contextdef.xml.preIF0003
${WMCROOT}/conf/adapter/data/cem_umts_voice_prb_contextdef.xml
```

4.4 Rolling back 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 UMTS Voice Service Global Object Model (GOM) from the system.

Complete the following as user saserver:

- Roll back the service module GOM by executing the following commands:

```
$ cd $WMCROOT/packages/cem_umts_voice_gom_1.2.1/admin/provision/rollback

$ wmc_ant -f rollback.xml -Dpackage.from=cem_umts_voice_gom_1.2.1 -
Dpackage.name=cem_umts_voice_gom_1.2 rollback
```

4.5 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_umts_voice_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. Execute the following commands:

```
$ mv ibm-tn-cem-cem_umts_voice_gom.remove.preIF0003 ibm-tn-cem-
cem_umts_voice_gom.remove

$ mv ibm-tn-cem-cem_umts_voice_gom.version.preIF0003 ibm-tn-cem-
cem_umts_voice_gom.version
```

4.6 Removing the Tivoli Netcool Customer Experience Manager Module for UMTS Voice 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_umts_voice_prb.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. Execute the following commands:

```
$ mv ibm-tn-cem-cem_umts_voice_prb.remove.preIF0003 ibm-tn-cem-
cem_umts_voice_prb.remove

$ mv ibm-tn-cem-cem_umts_voice_prb.version.preIF0003 ibm-tn-cem-
cem_umts_voice_prb.version
```

4.7 Restarting the processes

Note Complete the procedures in this section on either the application server or gateway server.

Complete the following steps as user saserver:

1. Restart the processes shutdown before uninstall:

```
$ sap start monitoring

$ sap start cem

$ sap start adapters
```

Appendix A: 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
UMTS Voice	Universal Mobile Telecommunications System-High Speed Downlink Packet Access
XML	Extensible Markup Language

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