

Managing

Table of Contents

SMSC Gateway Server Settings	1
SMSC Server Properties	1
SS7 Settings	16
Cassandra Settings	25
Scheduler Settings	31
Diameter Settings	36
Home Routing Settings	44
CDR	50
Processing	53
SMPP Server Settings	56
View SMPP Server Details	56
Edit SMPP Server Properties	56
Start SMPP Server	61
Stop SMPP Server	62
Reset Counters for SMPP Server	62
External Short Messaging Entities (ESMEs)	62
Create new ESME	64
Modify ESME	72
View ESME Details	79
Delete an existing ESME	79
Start ESME	80
Stop ESME	81
Other ESME Operations	81
SIP Settings	82
Using CLI	82
Using GUI	83
MAP Version Cache	83
Using CLI	84
Using GUI	84
Database Routing Rules	84
Create/Update Database Routing Rule	85
Delete Database Routing Rule	86
View Database Routing Rule Information	87
Retrieve a range of Database Routing Rules	88
Message processing rules (mproc rules)	89
Create a mproc rule	89
Modify a mproc rule	91
View a mproc rule details	93

Remove an existing mproc rule.	94
Statistics	94
Create new Campaign.....	95
View Campaigns	95

Now that you have set up the Gateway you must configure the SS7 Stack and the Gateway. &THIS.PLATFORM;&THIS.APPLICATION;comes with a convenient user-friendly Graphical User Interface (GUI) and a Command Line Interface (CLI) that will allow you to configure, monitor and manage the Gateway. While the CLI tool allows complete configuration and control of the Gateway, the GUI-based management enhances the usability of the Gateway and gives you the ability to configure and manage the SMSC Gateway dynamically. This chapter will explain how to manage the Gateway effectively using both the GUI and the CLI.

Configuring the SS7 Stack

You must configure the SS7 stack prior to configuring SMSC. For details on configuring the SS7 Stack please refer to the RestComm SS7 Stack User Guide. The RestComm SS7 Stack User Guide lists all available Shell commands and GUI operations to configure SS7. In addition, help files are also available for every Shell command providing all details relevant to the command.

Configuring the Gateway

Please find below relevant information on configuring the Gateway

SMSC Gateway Server Settings

SMSC Server Properties

Default Validity Period (in hours)

Using CLI

You can set the 'Default Validity Period (in hours)' by issuing the command `smsc set defaultvalidityperiodhours` with appropriate parameters as described below. You can verify this by issuing the command `smsc get defaultvalidityperiodhours` which will display the value set for this property.

Name

`smsc set defaultvalidityperiodhours`

SYNOPSIS

`smsc set defaultvalidityperiodhours <default-validity-period-hours>`

DESCRIPTION

This command is used to set a value for default validity period (in hours) for incoming SMSC messages that do not have their own validity period value. Validity period is the time duration for which the SMSC Gateway will attempt to send the SMS. If the time period expires before the message can be delivered, the SMSC Gateway will drop it.

EXAMPLES

`smsc set defaultvalidityperiodhours 3`

Using GUI

Procedure: Set Default Validity Period using the GUI

1. In the GUI Management Console for SMSC Gateway, click on 'Server Settings' in the left panel.
2. The main panel will display the existing Settings, segregated into eight horizontal tabs: Properties, SS7 Settings, Cassandra, Scheduler, Diameter, Processing, CDR and Home Routing. Switch to the 'Properties' tab in the GUI.
3. You can specify the default validity period (in hours) by entering the value in the text field 'Default validity period hours (in hours)'. For more details of this parameter, please refer to the description of the CLI command for the same in the preceding section.
4. You must click on the button 'Apply Changes' at the top of the window to save your settings. If there is an error in setting the value, then you will find the details of the error in the Management Console Log section below.

Maximum Validity Period (in hours)

Using CLI

You can set the 'Max Validity Period (in hours)' by issuing the command `smsc set maxvalidityperiodhours` with appropriate parameters as described below. You can verify this by issuing the command `smsc get maxvalidityperiodhours` which will display the value set for this property.

Name

`smsc set maxvalidityperiodhours`

SYNOPSIS

`smsc set maxvalidityperiodhours <max-validity-period-hours>`

DESCRIPTION

This command is used to set a value for the maximum validity period (in hours). All incoming messages with a validity period set greater than the value specified by this parameter will either be rejected (if they are ESME originated messages) or the value of their validity period will be set to this value (for MO originated messages).

EXAMPLES

`smsc set maxvalidityperiodhours 6`

Using GUI

Procedure: Set Maximum Validity Period using the GUI

1. In the GUI Management Console for SMSC Gateway, click on 'Server Settings' in the left panel.
2. The main panel will display the existing Settings, segregated into eight horizontal tabs: Properties, SS7 Settings, Cassandra, Scheduler, Diameter, Processing, CDR and Home Routing. Switch to the 'Properties' tab in the GUI.
3. You can specify the maximum validity period (in hours) by entering the value in the text field 'Maximum validity period (in hours)'. For more details of this parameter, please refer to the description of the CLI command for the same in the preceding section.
4. You must click on the button 'Apply Changes' at the top of the window to save your settings. If there is an error in setting the value, then you will find the details of the error in the Management Console Log section below.

Default Type of Number (TON)

Using CLI

You can set the 'Default type of number (TON)' by issuing the command `smsc set defaultton` with appropriate parameters as described below. You can verify this by issuing the command `smsc get defaultton` which will display the value set for this property.

Name

`smsc set defaulttton`

SYNOPSIS

`smsc set defaulttton <default-ton>`

DESCRIPTION

This command is used to set a value for default TON (Type Of Number). If an incoming message does not have a value defined for TON, i.e. if TON is set as 'unknown', then the value specified for defaulttton will be used as TON for that message.

EXAMPLES

`smsc set defaulttton 1`

Using GUI

Procedure: Set Default type of number (TON) using the GUI

1. In the GUI Management Console for SMSC Gateway, click on 'Server Settings' in the left panel.
2. The main panel will display the existing Settings, segregated into eight horizontal tabs: Properties, SS7 Settings, Cassandra, Scheduler, Diameter, Processing, CDR and Home Routing. Switch to the 'Properties' tab in the GUI.
3. You can specify the Default type of number (TON) by entering the value in the text field 'Default type of number (TON)'. For more details of this parameter, please refer to the description of the CLI command for the same in the preceding section.
4. You must click on the button 'Apply Changes' at the top of the window to save your settings. If there is an error in setting the value, then you will find the details of the error in the Management Console Log section below.

Default numbering plan indicator (NPI)

Using CLI

You can set the 'Default numbering plan indicator (NPI)' value by issuing the command `smsc set defaultnpi` with appropriate parameters as described below. You can verify this by issuing the command `smsc get defaultnpi` which will display the value set for this property.

Name

`smsc set defaultnpi`

SYNOPSIS

`smsc set defaultnpi <default-npi>`

DESCRIPTION

This command is used to set a value for default NPI (Number Plan Indicator). If an incoming message does not have a value defined for NPI, i.e. if NPI is set as 'unknown', then the value specified for defaultnpi will be used as NPI for that message.

EXAMPLES

`smsc set defaultnpi 1`

Using GUI

Procedure: Set Default numbering plan indicator (NPI) using the GUI

1. In the GUI Management Console for SMSC Gateway, click on 'Server Settings' in the left panel.
2. The main panel will display the existing Settings, segregated into eight horizontal tabs: Properties, SS7 Settings, Cassandra, Scheduler, Diameter, Processing, CDR and Home Routing. Switch to the 'Properties' tab in the GUI.
3. You can specify the Default numbering plan indicator (NPI) by entering the value in the text field 'Default numbering plan indicator (NPI)'. For more details of this parameter, please refer to the description of the CLI command for the same in the preceding section.
4. You must click on the button 'Apply Changes' at the top of the window to save your settings. If there is an error in setting the value, then you will find the details of the error in the Management Console Log section below.

Cluster Name

Using CLI

You can set the 'Cluster Name' value by issuing the command `smsc set esmedefaultcluster` with appropriate parameters as described below. You can verify this by issuing the command `smsc get esmedefaultcluster` which will display the value set for this property.

Name

```
smsc set esmedefaultcluster
```

SYNOPSIS

```
smsc set esmedefaultcluster <esme-default-cluster>
```

DESCRIPTION

This command is used to set a value for ESME default cluster. If the destination-address does not match to any ESME (any Cluster Name) the message will be routed to the cluster with the name specified here for esme-default-cluster.

You can remove an ESME default cluster by issuing a command in the below format:

Name

```
smsc remove esmedefaultcluster
```

SYNOPSIS

```
smsc remove esmedefaultcluster <esme-default-cluster>
```

DESCRIPTION

This command is used to remove the value configured for ESME default cluster. If this value is removed, all unrouted messages will be routed into the GSM network.

Using GUI

Procedure: Set Cluster Name using the GUI

1. In the GUI Management Console for SMSC Gateway, click on 'Server Settings' in the left panel.
2. The main panel will display the existing Settings, segregated into eight horizontal tabs: Properties, SS7 Settings, Cassandra, Scheduler, Diameter, Processing, CDR and Home Routing. Switch to the 'Properties' tab in the GUI.
3. You can specify the Cluster Name by entering the value in the text field 'Cluster Name'. For more details of this parameter, please refer to the description of the CLI command for the same in the preceding section.
4. You must click on the button 'Apply Changes' at the top of the window to save your settings. If there is an error in setting the value, then you will find the details of the error in the Management Console Log section below.

SMPP Encoding for GSM7/UCS2

Using CLI

You can set the 'SMPP Encoding for GSM7 (DCS=0)' and 'SMPP Encoding for UCS2 (DCS=8)' value by issuing the commands `smsc set smppencodingforgsm7` / `smsc set smppencodingforucs2` with appropriate parameters as described below. You can verify this by issuing the commands `smsc get smppencodingforgsm7` / `smsc get smppencodingforucs2` which will display the value set for these property. When GSM8 encoding type no recoding of message content is made.

Name

```
smsc set smppencodingforgsm7  
smsc set smppencodingforucs2
```

SYNOPSIS

```
smsc set smppencodingforgsm7 <UTF8|UNICODE|GSM7>  
smsc set smppencodingforucs2 <UTF8|UNICODE|GSM7>
```

DESCRIPTION

These commands are used to set the Encoding Scheme at SMPP side for different GSM data coding schemas (DCS).

For GSM7 encoding (DCS = 0) you must use the command `smsc set smppencodingforgsm7`, in order to set text encoding style.

For UCS2 encoding (DCS = 8), you must use the command `smsc set smppencodingforucs2`, in order to set text encoding style.

At the SMPP side, messages accept 3 different encoding schemes namely UTF8, UNICODE and GSM7 (8-bit), for both sending and receiving messages. The SMSC can be configured to accept one of them (the one that ESME supports). If this is not set, then the default encoding scheme is UTF8. For GSM8 encoding (DCS = 4), no charset encoding made in the SMSC.

EXAMPLES

```
smsc set smppencodingforgsm7 utf8  
or  
smsc set smppencodingforucs2 unicode
```

Using GUI

Procedure: Set SMPP Encoding for GSM7 and UCS2 using the GUI

1. In the GUI Management Console for SMSC Gateway, click on 'Server Settings' in the left panel.
2. The main panel will display the existing Settings, segregated into eight horizontal tabs: Properties, SS7 Settings, Cassandra, Scheduler, Diameter, Processing, CDR and Home Routing. Switch to the 'Properties' tab in the GUI.
3. You can specify the encoding scheme by choosing from the values (UTF8 | UNICODE | GSM7) in the list for 'SMPP Encoding for GSM7' (DCS=0) or 'SMPP Encoding for UCS2' (DCS=8). For more details of this parameter, please refer to the description of the CLI command for the same in the preceding section.
4. You must click on the button 'Apply Changes' at the top of the window to save your settings. If there is an error in setting the value, then you will find the details of the error in the Management Console Log section below.

Store And Forward Mode

Using CLI

You can set the 'Store And Forward Mode' value by issuing the command `smsc set storeandforwardmode` with appropriate parameters as described below. You can verify this by issuing the command `smsc get storeandforwardmode` which will display the value set for this property.

Name

```
smsc set storeandforwardmode
```

SYNOPSIS

```
smsc set storeandforwardmode <normal | fast>
```

DESCRIPTION

This command is used to set the storeandforwardmode value.
storeandforwardmode has two possible values:

normal - StoreAndForward mode is used for incoming smpp StoreAndForward messages and all SS7 and SIP messages. All the incoming messages into SMSC will be persisted before trying for delivery.

fast (default) - ForwardAndStore mode is used for incoming smpp StoreAndForward messages and all SS7 and SIP messages. This option can be switched without SMSC restart. All the incoming messages into SMSC will be tried for delivery first and only if delivery fails, it will be persisted for later re-try.

Datagramm and Transactional modes will work in the same way for both normal and fast modes.

EXAMPLES

```
smsc get storeandforwardmode fast
```

Using GUI

Procedure: Set Store And Forward Mode using the GUI

1. In the GUI Management Console for SMSC Gateway, click on 'Server Settings' in the left panel.
2. The main panel will display the existing Settings, segregated into eight horizontal tabs: Properties, SS7 Settings, Cassandra, Scheduler, Diameter, Processing, CDR and Home Routing. Switch to the 'Properties' tab in the GUI.
3. You can specify the Store And Forward Mode by selecting the value from the dropdown field 'Store And Forward Mode'. For more details of this parameter, please refer to the description of the CLI command for the same in the preceding section.
4. You must click on the button 'Apply Changes' at the top of the window to save your settings. If there is an error in setting the value, then you will find the details of the error in the Management Console Log section below.

National language locking shift table

Using CLI

You can set the 'National language locking shift table' value by issuing the command `smsc set nationallanguagelockingshift` with appropriate parameters as described below. You can verify this by issuing the command `smsc get nationallanguagelockingshift` which will display the value set for this property.

Name

```
smsc set nationallanguagelockingshift
```

SYNOPSIS

```
smsc set nationallanguagelockingshift <NationalLanguageIdentifier>
```

DESCRIPTION

National language locking shift table can be configured for messages that have come via SMPP, do not have UDHS inside and have GSM7 encoding (DCS==0).

The default GSM data coding table is mostly used. Possible values:

= 0: default GSM data coding table

= 13: urdu (arabic) national language shift table

This value can be also configured at ESME level.

EXAMPLES

```
smsc set nationallanguagelockingshift 0
```

```
smsc set nationallanguagelockingshift 13
```

Using GUI

Procedure: Set National language locking shift table using the GUI

1. In the GUI Management Console for SMSC Gateway, click on 'Server Settings' in the left panel.
2. The main panel will display the existing Settings, segregated into eight horizontal tabs: Properties, SS7 Settings, Cassandra, Scheduler, Diameter, Processing, CDR and Home Routing. Switch to the 'Properties' tab in the GUI.
3. You can specify the National language locking shift table by entering the value in the text field 'National language locking shift'. For more details of this parameter, please refer to the description of the CLI command for the same in the preceding section.
4. You must click on the button 'Apply Changes' at the top of the window to save your settings. If there is an error in setting the value, then you will find the details of the error in the Management Console Log section below.

National language single shift table

Using CLI

You can set the 'National language single shift table' value by issuing the command `smsc set`

nationallanguagesingleshift with appropriate parameters as described below. You can verify this by issuing the command `smsc get nationallanguagesingleshift` which will display the value set for this property.

Name

```
smsc set nationallanguagesingleshift
```

SYNOPSIS

```
smsc set nationallanguagesingleshift <NationalLanguageIdentifier>
```

DESCRIPTION

National language single shift table can be configured for messages that have come via SMPP, do not have UDHS inside and have GSM7 encoding (DCS==0).

The default GSM data coding table is mostly used. Possible values:

= 0: default GSM data coding table

= 13: urdu (arabic) national language shift table

This value can be also configured at ESME level.

EXAMPLES

```
smsc set nationallanguagesingleshift 0
```

```
smsc set nationallanguagesingleshift 13
```

Using GUI

Procedure: Set National language single shift table using the GUI

1. In the GUI Management Console for SMSC Gateway, click on 'Server Settings' in the left panel.
2. The main panel will display the existing Settings, segregated into eight horizontal tabs: Properties, SS7 Settings, Cassandra, Scheduler, Diameter, Processing, CDR and Home Routing. Switch to the 'Properties' tab in the GUI.
3. You can specify the National language single shift table by entering the value in the text field 'National language single shift'. For more details of this parameter, please refer to the description of the CLI command for the same in the preceding section.
4. You must click on the button 'Apply Changes' at the top of the window to save your settings. If there is an error in setting the value, then you will find the details of the error in the Management Console Log section below.

Subscriber busy due delay (in sec)

Using CLI

You can set the 'Subscriber busy due delay (in sec)' value by issuing the command `smsc set subscriberbusyduedelay` with appropriate parameters as described below. You can verify this by issuing the command `smsc get subscriberbusyduedelay` which will display the value set for this property.

Name

`smsc set subscriberbusyduedelay`

SYNOPSIS

`smsc set subscriberbusyduedelay <subscriber-busy-due-delay>`

DESCRIPTION

This command is used to set a value for subscriber-busy-due-delay (in seconds). This parameter specifies the delay time period in seconds when there has been a delivery failure with the cause 'subscriber busy'.

EXAMPLES

`smsc set subscriberbusyduedelay 2`

Using GUI

Procedure: Set Subscriber busy due delay (in sec) using the GUI

1. In the GUI Management Console for SMSC Gateway, click on 'Server Settings' in the left panel.
2. The main panel will display the existing Settings, segregated into eight horizontal tabs: Properties, SS7 Settings, Cassandra, Scheduler, Diameter, Processing, CDR and Home Routing. Switch to the 'Properties' tab in the GUI.
3. You can specify the Subscriber busy due delay by entering the value in the text field 'Subscriber busy due delay (in sec)'. For more details of this parameter, please refer to the description of the CLI command for the same in the preceding section.
4. You must click on the button 'Apply Changes' at the top of the window to save your settings. If there is an error in setting the value, then you will find the details of the error in the Management Console Log section below.

First due delay (in sec)

Using CLI

You can set the 'First due delay (in sec)' value by issuing the command `smsc set firstduedelay` with appropriate parameters as described below. You can verify this by issuing the command `smsc get firstduedelay` which will display the value set for this property.

Name

`smsc set firstduedelay`

SYNOPSIS

`smsc set firstduedelay <first-due-delay>`

DESCRIPTION

This command is used to set a value for first-due-delay (in seconds). This parameter specifies the delay time period in seconds between message incoming time and first delivery attempt.

EXAMPLES

`smsc set firstduedelay 60`

Using GUI

Procedure: Set First due delay (in sec) using the GUI

1. In the GUI Management Console for SMSC Gateway, click on 'Server Settings' in the left panel.
2. The main panel will display the existing Settings, segregated into eight horizontal tabs: Properties, SS7 Settings, Cassandra, Scheduler, Diameter, Processing, CDR and Home Routing. Switch to the 'Properties' tab in the GUI.
3. You can specify the First due delay by entering the value in the text field 'First due delay (in sec)'. For more details of this parameter, please refer to the description of the CLI command for the same in the preceding section.
4. You must click on the button 'Apply Changes' at the top of the window to save your settings. If there is an error in setting the value, then you will find the details of the error in the Management Console Log section below.

Second due delay (in sec)

Using CLI

You can set the 'Second due delay (in sec)' value by issuing the command `smsc set secondduedelay` with appropriate parameters as described below. You can verify this by issuing the command `smsc get secondduedelay` which will display the value set for this property.

Name

`smsc set secondduedelay`

SYNOPSIS

`smsc set secondduedelay <second-due-delay>`

DESCRIPTION

This command is used to set a value for second-due-delay (in seconds). This parameter specifies the delay time period in seconds between the first and second delivery attempt (i.e. if the first delivery attempt failed).

EXAMPLES

`smsc set secondduedelay 5`

Using GUI

Procedure: Set Second due delay (in sec) using the GUI

1. In the GUI Management Console for SMSC Gateway, click on 'Server Settings' in the left panel.
2. The main panel will display the existing Settings, segregated into eight horizontal tabs: Properties, SS7 Settings, Cassandra, Scheduler, Diameter, Processing, CDR and Home Routing. Switch to the 'Properties' tab in the GUI.
3. You can specify the Second due delay by entering the value in the text field 'Second due delay (in sec)'. For more details of this parameter, please refer to the description of the CLI command for the same in the preceding section.
4. You must click on the button 'Apply Changes' at the top of the window to save your settings. If there is an error in setting the value, then you will find the details of the error in the Management Console Log section below.

Max due delay (in sec)

Using CLI

You can set the 'Max due delay (in sec)' value by issuing the command `smsc set maxduedelay` with appropriate parameters as described below. You can verify this by issuing the command `smsc get maxduedeLay` which will display the value set for this property.

Name

`smsc set maxduedelay`

SYNOPSIS

`smsc set maxduedelay <maxduedelay>`

DESCRIPTION

This command is used to set a value for max-due-delay (in seconds). This parameter specifies the maximum possible delay time period in seconds between delivery attempts.

EXAMPLES

`smsc set maxduedelay 3600`

Using GUI

Procedure: Set Max due delay (in sec) using the GUI

1. In the GUI Management Console for SMSC Gateway, click on 'Server Settings' in the left panel.
2. The main panel will display the existing Settings, segregated into eight horizontal tabs: Properties, SS7 Settings, Cassandra, Scheduler, Diameter, Processing, CDR and Home Routing. Switch to the 'Properties' tab in the GUI.
3. You can specify the Max due delay by entering the value in the text field 'Max due delay (in sec)'. For more details of this parameter, please refer to the description of the CLI command for the same in the preceding section.
4. You must click on the button 'Apply Changes' at the top of the window to save your settings. If there is an error in setting the value, then you will find the details of the error in the Management Console Log section below.

Due delay multiplier

Using CLI

You can set the 'Due delay multiplier' value by issuing the command `smsc set duelaymultiplier` with appropriate parameters as described below. You can verify this by issuing the command `smsc get duelaymultiplier` which will display the value set for this property.

Name

`smsc set duelaymultiplier`

SYNOPSIS

`smsc set duelaymultiplier <due-delay-multiplier>`

DESCRIPTION

This command is used to set a value for due-delay-multiplier. This parameter specifies the delay multiplier value before another delivery attempt (after failure) is made.

After a message delivery failure (if message validity period is not over and the failure is temporary), a delay period is induced before the next delivery attempt. This delay period is calculated as follows:

Delay after the first delivery failure =
second-due-delay

Delay after every consecutive delivery failure =
 $\text{prev-due-delay} * \text{due-delay-multiplier} / 100$
where prev-due-delay is the delay at the previous step.

EXAMPLES

`smsc set duelaymultiplier 200`

Lets take an example where the First due delay is 60 seconds, Second due delay is 300 seconds, and the due-delay-multiplier is 200, the attempts will be made as below:

First attempt will be after 60 seconds (1 min)
[delay is configured in First due delay]

Second attempt will be after 300 seconds (5 min)
[delay is configured in Second due delay assuming
delivery failed not because of "Subscriber busy"]

Third attempt will be after 600 sec (10 min)
[delay is calculated based on Due delay multiplier]
 $\text{Delay} = 300 * 200 / 100 = 600$

Fourth attempt will be after 1200 sec (20 min)
[delay is calculated based on Due delay multiplier]
 $\text{Delay} = 600 * 200 / 100 = 1200$

Fifth attempt will be after 2400 sec (40 min)
[delay is calculated based on Due delay multiplier]
 $\text{Delay} = 1200 * 200 / 100 = 2400$

Using GUI

Procedure: Set Due delay multiplier using the GUI

1. In the GUI Management Console for SMSC Gateway, click on 'Server Settings' in the left panel.
2. The main panel will display the existing Settings, segregated into eight horizontal tabs: Properties, SS7 Settings, Cassandra, Scheduler, Diameter, Processing, CDR and Home Routing. Switch to the 'Properties' tab in the GUI.
3. You can specify the Due delay multiplier by entering the value in the text field 'Due delay multiplier'. For more details of this parameter, please refer to the description of the CLI command for the same in the preceding section.
4. You must click on the button 'Apply Changes' at the top of the window to save your settings. If there is an error in setting the value, then you will find the details of the error in the Management Console Log section below.

SS7 Settings

SMSC Global Title

Using CLI

You can set the 'SMSC Global Title' by issuing the command `smsc set scgt` with appropriate parameters as described below. You can verify this by issuing the command `smsc get scgt` which will display the value set for this property.

Name

```
smsc set scgt
```

SYNOPSIS

```
smsc set scgt <globalTitle> networkid <networkId>
```

DESCRIPTION

This command is used to set a value for SMSC Global Title.

networkId - a specifies Global Title for a virtual SS7 subnetwork (this is for Multi-tenancy support). By using of this command with different networkIds you can specify Global Titles for several subnetworks.

If this parameter is skipped - networkId will be set to "0" when Global Title creation (master networkId).

When we do not specify Global Title for some networkid - Global Title for master networkId will be used. When we use "0" as Global Title value

(like "smsc set scgt 0 networkid <xxx>") -

this will just clear Global Title for an specified networkid.

Using GUI

Procedure: Set SMSC Global Title using the GUI

1. In the GUI Management Console for SMSC Gateway, click on 'Server Settings' in the left panel.
2. The main panel will display the existing Settings, segregated into eight horizontal tabs: Properties, SS7 Settings, Cassandra, Scheduler, Diameter, Processing, CDR and Home Routing. Switch to the 'SS7 Settings' tab in the GUI.
3. You can specify the SMSC Global Title by entering values into fields pair 'SMSC Gateway Global Title Indicator Network Id' and 'SMSC Gateway Global Title'. You are able to set Global Title for definite networkId. Setting of Global Title for networkId to "0" leads clearing of Global Title for networkId. For more details of this parameter, please refer to the description of the CLI command for the same in the preceding section.
4. You must click on the button 'Apply Changes' at the top of the window to save your settings. If there is an error in setting the value, then you will find the details of the error in the Management Console Log section below.

SCCP Global Title type

Using CLI

You can set the 'SCCP Global Title type' by issuing the command `smc set gti` with appropriate parameters as described below. You can verify this by issuing the command `smc get gti` which will display the value set for this property.

Name

```
smc set gti
```

SYNOPSIS

```
smc set gti 0001|0010|0011|0100
```

DESCRIPTION

This command is used to set the value of SCCP Global Title type.

This Global Title type will be used for SCCP outgoing messages.

Default value for ITU-T is 0100.

Global title 0001 - Nature of address indicator included

Global title 0010 - Translation type included

Global title 0011 - Translation type, Numbering plan and Encoding scheme included

Global title 0100 - Translation type, Numbering plan, Encoding scheme and Nature of address indicator included

Using GUI

Procedure: Set SCCP Global Title type using the GUI

1. In the GUI Management Console for SMSC Gateway, click on 'Server Settings' in the left panel.
2. The main panel will display the existing Settings, segregated into eight horizontal tabs:

Properties, SS7 Settings, Cassandra, Scheduler, Diameter, Processing, CDR and Home Routing. Switch to the 'SS7 Settings' tab in the GUI.

3. You can specify the SCCP Global Title type by entering the value in the text field 'SCCP Global Title'. For more details of this parameter, please refer to the description of the CLI command for the same in the preceding section.
4. You must click on the button 'Apply Changes' at the top of the window to save your settings. If there is an error in setting the value, then you will find the details of the error in the Management Console Log section below.

SCCP translation type value

Using CLI

You can set the 'SCCP translation type value' by issuing the command `smc set tt` with appropriate parameters as described below. You can verify this by issuing the command `smc get tt` which will display the value set for this property.

Name

```
smc set tt
```

SYNOPSIS

```
smc set tt <translation type value>
```

DESCRIPTION

This command is used to set the value of SCCP translation type value. Translation type value will be used for SCCP outgoing messages. Default value for ITU-T is 0.

Using GUI

Procedure: Set SCCP translation type value using the GUI

1. In the GUI Management Console for SMSC Gateway, click on 'Server Settings' in the left panel.
2. The main panel will display the existing Settings, segregated into eight horizontal tabs: Properties, SS7 Settings, Cassandra, Scheduler, Diameter, Processing, CDR and Home Routing. Switch to the 'SS7 Settings' tab in the GUI.
3. You can specify the SCCP translation type value by entering the value in the text field 'SCCP translation type'. For more details of this parameter, please refer to the description of the CLI command for the same in the preceding section.
4. You must click on the button 'Apply Changes' at the top of the window to save your settings. If there is an error in setting the value, then you will find the details of the error in the Management Console Log section below.

SMSC Sub System Number (SSN)

Using CLI

You can set the 'SMSC SSN' by issuing the command `smmc set scssn` with appropriate parameters as described below. You can verify this by issuing the command `smmc get scssn` which will display the value set for this property.

Name

`smmc set scssn`

SYNOPSIS

`smmc set scssn <smmcSubSystemNumber>`

DESCRIPTION

This command is used to set the value of SMSC Sub System Number (SSN). Issuing this command in CLI will set the SSN value but you must ensure that the SSN number is properly configured in the TCAP Stack in the xml descriptor file "mobicents-smscgateway-version/jboss-5.1.0.GA/server/default/deploy/mobicents-smmc-server/META-INF/jboss-beans.xml".

Using GUI

Procedure: Set SMSC Sub System Number (SSN) using the GUI

1. In the GUI Management Console for SMSC Gateway, click on 'Server Settings' in the left panel.
2. The main panel will display the existing Settings, segregated into eight horizontal tabs: Properties, SS7 Settings, Cassandra, Scheduler, Diameter, Processing, CDR and Home Routing. Switch to the 'SS7 Settings' tab in the GUI.
3. You can specify the SMSC Sub System Number (SSN) by entering the value in the text field 'SMSC Gateway subsystem number'. For more details of this parameter, please refer to the description of the CLI command for the same in the preceding section.
4. You must click on the button 'Apply Changes' at the top of the window to save your settings. If there is an error in setting the value, then you will find the details of the error in the Management Console Log section below.

HLR Sub System Number (HLR SSN)

Using CLI

You can set the 'HLR SSN' by issuing the command `smmc set hlrsn` with appropriate parameters as described below. You can verify this by issuing the command `smmc get hlrsn` which will display the value set for this property.

Name

```
smsc set hlrsn
```

SYNOPSIS

```
smsc set hlrsn <hlrSubSystemNumber>
```

DESCRIPTION

This command is used to set the value of HLR Sub System Number (SSN).

Using GUI

Procedure: Set HLR Sub System Number (SSN) using the GUI

1. In the GUI Management Console for SMSC Gateway, click on 'Server Settings' in the left panel.
2. The main panel will display the existing Settings, segregated into eight horizontal tabs: Properties, SS7 Settings, Cassandra, Scheduler, Diameter, Processing, CDR and Home Routing. Switch to the 'SS7 Settings' tab in the GUI.
3. You can specify the HLR Sub System Number (SSN) by entering the value in the text field 'HLR subsystem number'. For more details of this parameter, please refer to the description of the CLI command for the same in the preceding section.
4. You must click on the button 'Apply Changes' at the top of the window to save your settings. If there is an error in setting the value, then you will find the details of the error in the Management Console Log section below.

MSC Sub System Number (SSN)

Using CLI

You can set the 'MSC SSN' by issuing the command `smsc set mscsn` with appropriate parameters as described below. You can verify this by issuing the command `smsc get mscsn` which will display the value set for this property.

Name

```
smsc set mscsn
```

SYNOPSIS

```
smsc set mscsn <mscSubSystemNumber>
```

DESCRIPTION

This command is used to set the value of MSC Sub System Number (SSN).

Using GUI

Procedure: Set MSC Sub System Number (SSN) using the GUI

1. In the GUI Management Console for SMSC Gateway, click on 'Server Settings' in the left panel.
2. The main panel will display the existing Settings, segregated into eight horizontal tabs:

Properties, SS7 Settings, Cassandra, Scheduler, Diameter, Processing, CDR and Home Routing. Switch to the 'SS7 Settings' tab in the GUI.

3. You can specify the MSC Sub System Number (SSN) by entering the value in the text field 'MSC subsystem number'. For more details of this parameter, please refer to the description of the CLI command for the same in the preceding section.
4. You must click on the button 'Apply Changes' at the top of the window to save your settings. If there is an error in setting the value, then you will find the details of the error in the Management Console Log section below.

MAP Application Context version

Using CLI

You can set the 'MAP Application Context version' by issuing the command `smc set maxmapv` with appropriate parameters as described below. You can verify this by issuing the command `smc get maxmapv` which will display the value set for this property.

Name

```
smc set maxmapv
```

SYNOPSIS

```
smc set maxmapv <version-number>
```

DESCRIPTION

This command is used to set the value of MAP Application Context version. The version number set here will be used for SMS messages exchanged. RestComm SMSC Gateway supports version negotiation. So if you set this to a higher version (say for example version 3, however your network only understands version 2), the SMSC Gateway will automatically do the version negotiation and exchange V2 messages when V3 exchange fails. However this causes additional messages to be exchanged and increases the overall load on the system. Therefore it is advisable to always set the correct version.

Using GUI

Procedure: Set MAP Application Context version using the GUI

1. In the GUI Management Console for SMSC Gateway, click on 'Server Settings' in the left panel.
2. The main panel will display the existing Settings, segregated into eight horizontal tabs: Properties, SS7 Settings, Cassandra, Scheduler, Diameter, Processing, CDR and Home Routing. Switch to the 'SS7 Settings' tab in the GUI.
3. You can specify the MAP Application Context version by entering the value in the text field 'MAP version supported'. For more details of this parameter, please refer to the description of the CLI command for the same in the preceding section.

4. You must click on the button 'Apply Changes' at the top of the window to save your settings. If there is an error in setting the value, then you will find the details of the error in the Management Console Log section below.

Max Message Length Reducer

Using CLI

You can set the 'Max Message Length Reducer' value by issuing the command `smc set maxmessagelengthreducer` with appropriate parameters as described below. You can verify this by issuing the command `smc get maxmessagelengthreducer` which will display the value set for this property.

Name

```
smc set maxmessagelengthreducer
```

SYNOPSIS

```
smc set maxmessagelengthreducer <max-message-length-reducer>
```

DESCRIPTION

This command is used to set an integer value for max-message-length-reducer. The recommended value is 6. Possible values are numbers from 0 to 12.

Empty TC-BEGIN will be used if the message length is greater than the maximum possible message length minus the value specified for max-message-length-reducer.

$(\text{message-length} > \text{max-possible-message-length} - \text{max-message-length-reducer})$

Empty TC-BEGIN is used in MAP Version 2 and 3 for forwardSM and Mt-ForwardSM requests. In MAP Version 2 the dailog portion (ApplicationContextName, MAPOpenInfo primitive) and the component portion (forwardSM and mt-ForwardSM requests) may both together be too long to fit within a MTP message. In Empty TC-BEGIN case, it first sends the dailog portion in TC-BEGIN followed by the component portion in the next TC-CONTINUE. Whether empty TC-BEGIN is used or not depends on the length of a message and the length of SCCP addresses. This option increases the guarantee of delivery of a message to some network.

EXAMPLES

```
smc set maxmessagelengthreducer 6
```

Using GUI

Procedure: Set Max Message Length Reducer using the GUI

1. In the GUI Management Console for SMSC Gateway, click on 'Server Settings' in the left panel.
2. The main panel will display the existing Settings, segregated into eight horizontal tabs: Properties, SS7 Settings, Cassandra, Scheduler, Diameter, Processing, CDR and Home Routing. Switch to the 'SS7 Settings' tab in the GUI.

3. You can specify the Max Message Length Reducer by entering the value in the text field 'Max Message Length Reducer'. For more details of this parameter, please refer to the description of the CLI command for the same in the preceding section.
4. You must click on the button 'Apply Changes' at the top of the window to save your settings. If there is an error in setting the value, then you will find the details of the error in the Management Console Log section below.

Pre-configured HLR address for SRI messages

Using CLI

You can set a pre-configured HLR address for SRI messages by issuing the command `smc set hrhlrnumber` with appropriate parameters as described below. You can remove this pre-configured address by issuing the command `smc remove hrhlrnumber`. You can verify this by issuing the command `smc get hrhlrnumber` which will display the value set for this property.

Name

```
smc set hrhlrnumber
smc remove hrhlrnumber
```

SYNOPSIS

```
smc set hrhlrnumber <hlr GT digits> networkid <networkId>
smc remove hrhlrnumber networkid <networkId>
```

DESCRIPTION

This command is used to set a pre-configured HLR address for SRI messages.

In some scenarios it may be required to set a HLR address instead of a MSISDN address into the SCCP 'CalledPartyAddress' of 'SendRoutingInfo' requests issued by the SMSC GW in both mobile terminated and home routing modes. In such cases, you must set this parameter 'hrhlrnumber' to a pre-configured HLR address.

For all other scenarios where this is not required, you may leave this parameter empty. When this is empty, the SCCP 'CalledPartyAddress' of 'SendRoutingInfo' request will be set to the destination MSISDN of a subscriber.

networkId - specifies a virtual SS7 subnetwork (this is for Multi-tenancy support). By using of this command with different networkIds you can specify hrhlrnumber for several subnetworks.

If this parameter is skipped - networkId will be set to "0".

Using GUI

Procedure: Set Pre-configured HLR address for SRI messages using the GUI

1. In the GUI Management Console for SMSC Gateway, click on 'Server Settings' in the left panel.
2. The main panel will display the existing Settings, segregated into eight horizontal tabs:

Properties, SS7 Settings, Cassandra, Scheduler, Diameter, Processing, CDR and Home Routing. Switch to the 'SS7 Settings' tab in the GUI.

3. You can specify (set or remove) the Pre-configured HLR address for SRI messages by entering appropriate values for a specified networkID. For more details of this parameter, please refer to the description of the CLI command for the same in the preceding section.
4. You must click on the button 'Apply Changes' at the top of the window to save your settings. If there is an error in setting the value, then you will find the details of the error in the Management Console Log section below.

SRI responses Cache Time (in secs)

Using CLI

You can set a SRI responses Cache Time by issuing the command `smc set sriresponselivetime` with appropriate parameters as described below. You can verify this by issuing the command `smc get sriresponselivetime` which will display the value set for this property.

Name

```
smc set sriresponselivetime
```

SYNOPSIS

```
smc set sriresponselivetime <time in seconds>
```

DESCRIPTION

This command is used to set a SRI responses Cache Time.

SMSC GW can store successful SendRoutinInfo (SRI) responses (with IMSI and NetworkNodeNumber data) into an internal cach for some configurable time. SMSC GW parameter "sriresponselivetime" specifies the minimum time value for storing of a response. Caching of SRI responses takes some system resources and is recommended only if you need it for some scenarious (like you send firstly only an SRI request and do not deliver a message just to understend IMSI / NetworkNodeNumber (this scenario is achieavable by mproc rules) and then send a message in short time if needed).

DEFAULT VALUE

0 - this means no caching.

EXAMPLES

```
smc set sriresponselivetime 0
```

Using GUI

Procedure: Set SRI responses Cache Time using the GUI

1. In the GUI Management Console for SMSC Gateway, click on 'Server Settings' in the left panel.
2. The main panel will display the existing Settings, segregated into eight horizontal tabs: Properties, SS7 Settings, Cassandra, Scheduler, Diameter, Processing, CDR and Home Routing.

Switch to the 'SS7 Settings' tab in the GUI.

3. You can specify (set or remove) the "SRI responses Cache Time (in secs)" by entering appropriate values. For more details of this parameter, please refer to the description of the CLI command for the same in the preceding section.
4. You must click on the button 'Apply Changes' at the top of the window to save your settings. If there is an error in setting the value, then you will find the details of the error in the Management Console Log section below.

Cassandra Settings

You can manage Cassandra Settings using the CLI or GUI. Note that the modified settings will become effective only when the SMSC is re-started.

Cassandra Configuration - Host Addresses

Using CLI

You can set the 'host addresses' value for Cassandra settings by issuing the command `smc set dbhosts` with appropriate parameters as described below. You can verify this by issuing the command `smc get dbhosts` which will display the value set for this property.

Name

```
smc set dbhosts
```

SYNOPSIS

```
smc set dbhosts <host-ip>
```

DESCRIPTION

This command is used to set the host-ip addresses for Cassandra Database access.

EXAMPLES

```
smc set dbhosts 127.0.0.1
```

Using GUI

Procedure: Set Cassandra Configuration - Host Addresses using the GUI

1. In the GUI Management Console for SMSC Gateway, click on 'Server Settings' in the left panel.
2. The main panel will display the existing Settings, segregated into eight horizontal tabs: Properties, SS7 Settings, Cassandra, Scheduler, Diameter, Processing, CDR and Home Routing. Switch to the 'Cassandra' tab in the GUI.
3. You can specify the host-ip address by entering appropriate values in the text field 'Host Address'. For more details of these parameters, please refer to the description of the CLI command for the same in the preceding section.
4. You must click on the button 'Apply Changes' at the top of the window to save your settings. If there is an error in setting the value, then you will find the details of the error in the

Management Console Log section below.

Cassandra Configuration - Port

Using CLI

You can set the 'port' value for Cassandra settings by issuing the command `smc set dbport` with appropriate parameters as described below. You can verify this by issuing the command `smc get dbport` which will display the value set for this property.

Name

```
smc set dbport
```

SYNOPSIS

```
smc set dbport <port>
```

DESCRIPTION

This command is used to set the host-ip address for Cassandra Database access. Pass comma separated values if Cassandra is setup in cluster and can be accessed via multiple IP's

EXAMPLES

```
smc set dbport 9042
```

Using GUI

Procedure: Set Cassandra Configuration - Port using the GUI

1. In the GUI Management Console for SMSC Gateway, click on 'Server Settings' in the left panel.
2. The main panel will display the existing Settings, segregated into eight horizontal tabs: Properties, SS7 Settings, Cassandra, Scheduler, Diameter, Processing, CDR and Home Routing. Switch to the 'Cassandra' tab in the GUI.
3. You can specify the host-ip address and port by entering appropriate values in the text field 'Port'. For more details of these parameters, please refer to the description of the CLI command for the same in the preceding section.
4. You must click on the button 'Apply Changes' at the top of the window to save your settings. If there is an error in setting the value, then you will find the details of the error in the Management Console Log section below.

Cassandra Configuration - Keyspace Name

Using CLI

You can set the 'DB Keyspace Name' by issuing the command `smc set keyspacename` with appropriate parameters as described below. You can verify this by issuing the command `smc get keyspacename` which will display the value set for this property.

Name

```
smc set keyspacename
```

SYNOPSIS

```
smc set keyspacename <keyspacename>
```

DESCRIPTION

This command is used to set the Keyspace name for Cassandra Database. If you use the script available in the distributive the name will be set to 'RestCommSMSC' by default.

Using GUI

Procedure: Set Cassandra Configuration - Keyspace Name using the GUI

1. In the GUI Management Console for SMSC Gateway, click on 'Server Settings' in the left panel.
2. The main panel will display the existing Settings, segregated into eight horizontal tabs: Properties, SS7 Settings, Cassandra, Scheduler, Diameter, Processing, CDR and Home Routing. Switch to the 'Cassandra' tab in the GUI.
3. You can specify the Keyspace Name by entering the value in the text field 'Keyspace Name'. For more details of this parameter, please refer to the description of the CLI command for the same in the preceding section.
4. You must click on the button 'Apply Changes' at the top of the window to save your settings. If there is an error in setting the value, then you will find the details of the error in the Management Console Log section below.

Cassandra Configuration - Cluster Name

Using CLI

You can set the 'DB Cluster Name' value by issuing the command `smc set clustername` with appropriate parameters as described below. You can verify this by issuing the command `smc get clustername` which will display the value set for this property.

Name

```
smc set clustername
```

SYNOPSIS

```
smc set clustername <cluster-name>
```

DESCRIPTION

This command is used to set the Cluster name for Cassandra Database. If you use the script available in the distributive the name will be set to 'RestCommSMSC' by default.

EXAMPLES

```
smc set clustername RestCommSMSC
```

Using GUI

Procedure: Set Cassandra Configuration - Cluster Name using the GUI

1. In the GUI Management Console for SMSC Gateway, click on 'Server Settings' in the left panel.
2. The main panel will display the existing Settings, segregated into eight horizontal tabs: Properties, SS7 Settings, Cassandra, Scheduler, Diameter, Processing, CDR and Home Routing. Switch to the 'Cassandra' tab in the GUI.
3. You can specify the Cluster Name by entering the value in the text field 'Cluster Name'. For more details of this parameter, please refer to the description of the CLI command for the same in the preceding section.
4. You must click on the button 'Apply Changes' at the top of the window to save your settings. If there is an error in setting the value, then you will find the details of the error in the Management Console Log section below.

Cassandra Configuration - Removing Live Tables Days

Using CLI

You can set the 'Removing Live Tables Days' value by issuing the command `smc set removinglivetabledays` with appropriate parameters as described below. You can verify this by issuing the command `smc get removinglivetabledays` which will display the value set for this property.

Name

`smc set removinglivetablesdays`

SYNOPSIS

`smc set removinglivetablesdays <value>`

DESCRIPTION

This command is used to configure the SMC to automatically drop LIVE tables from the Cassandra Database. The SMC will attempt to delete tables just after midnight and after every SMC restart.

PARAMETERS

`removinglivetablesdays` - This parameter is used to specify the number of days the LIVE tables should be kept before attempting to drop them automatically.

If this value is specified as "0", the SMC will not drop tables automatically. In this case you must manually drop tables.

You must specify a value of 3 or more. You can not set this value to 1 or 2 days. This is to ensure the tables will be kept for a minimum of 2 days after creation date.

The SMC will attempt to delete tables for one day. If the Cassandra Database keeps tables for older days, then the administrator should drop these manually.

Using GUI

Procedure: Set Cassandra Configuration - Removing Live Tables Days

1. In the GUI Management Console for SMC Gateway, click on 'Server Settings' in the left panel.
2. The main panel will display the existing Settings, segregated into eight horizontal tabs: Properties, SS7 Settings, Cassandra, Scheduler, Diameter, Processing, CDR and Home Routing. Switch to the 'Cassandra' tab in the GUI.
3. You can specify the Removing Live Tables Days by entering the value in the text field 'Removing Live Tables Days'. For more details of this parameter, please refer to the description of the CLI command for the same in the preceding section.
4. You must click on the button 'Apply Changes' at the top of the window to save your settings. If there is an error in setting the value, then you will find the details of the error in the Management Console Log section below.

Cassandra Configuration - Removing Live Tables Days

Using CLI

You can set the 'Removing Live Tables Days' value by issuing the command `smc set removingarchivetabledays` with appropriate parameters as described below. You can verify this by issuing the command `smc get removingarchivetabledays` which will display the value set for this property.

Name

```
smc set removingarchivetabledays
```

SYNOPSIS

```
smc set removingarchivetabledays <value>
```

DESCRIPTION

This command is used to configure the SMC to automatically drop ARCHIVE tables from the Cassandra Database. The SMC will attempt to delete tables just after midnight and after every SMC restart.

PARAMETERS

`removingarchivetabledays` - This parameter is used to specify the number of days the ARCHIVE tables should be kept before attempting to drop them automatically.

If this value is specified as "0", the SMC will not drop tables automatically. In this case you must manually drop tables.

You must specify a value of 3 or more. You can not set this value to 1 or 2 days. This is to ensure the tables will be kept for a minimum of 2 days after creation date.

The SMC will attempt to delete tables for one day. If the Cassandra Database keeps tables for older days, then the administrator should drop these manually.

Using GUI

Procedure: Set Cassandra Configuration - Removing Archive Tables Days

1. In the GUI Management Console for SMC Gateway, click on 'Server Settings' in the left panel.
2. The main panel will display the existing Settings, segregated into eight horizontal tabs: Properties, SS7 Settings, Cassandra, Scheduler, Diameter, Processing, CDR and Home Routing. Switch to the 'Cassandra' tab in the GUI.
3. You can specify the Removing Archive Tables Days by entering the value in the text field 'Removing Archive Tables Days'. For more details of this parameter, please refer to the description of the CLI command for the same in the preceding section.
4. You must click on the button 'Apply Changes' at the top of the window to save your settings. If

there is an error in setting the value, then you will find the details of the error in the Management Console Log section below.

Scheduler Settings

You can modify Scheduler settings using the CLI or GUI. The modified settings for Fetch Period will become effective only when the SMSC is re-started. However modified settings for Max Rows and Max Activity Count will take effect immediately.

Fetch Period (in ms)

Using CLI

You can set the 'Fetch Period' value by issuing the command `smc set fetchperiod` with appropriate parameters as described below. You can verify this by issuing the command `smc get fetchperiod` which will display the value set for this property.

Name

```
smc set fetchperiod
```

SYNOPSIS

```
smc set fetchperiod <fetch-period>
```

DESCRIPTION

This command is used to set the fetch period value in milli-seconds for the Cassandra database. The parameter fetch-period specifies the time period (in milli-seconds) of fetching messages for delivery from the database. The default value is 5 seconds.

EXAMPLES

```
smc set fetchperiod 5000
```

Using GUI

Procedure: Set Cassandra Configuration - Cluster Name using the GUI

1. In the GUI Management Console for SMSC Gateway, click on 'Server Settings' in the left panel.
2. The main panel will display the existing Settings, segregated into eight horizontal tabs: Properties, SS7 Settings, Cassandra, Scheduler, Diameter, Processing, CDR and Home Routing. Switch to the 'Scheduler' tab in the GUI.
3. You can specify the Fetch Period by entering the value in the text field 'Fetch Period (in ms)'. For more details of this parameter, please refer to the description of the CLI command for the same in the preceding section.
4. You must click on the button 'Apply Changes' at the top of the window to save your settings. If there is an error in setting the value, then you will find the details of the error in the Management Console Log section below.

Max Rows

Using CLI

You can set the 'Max Rows' value by issuing the command `smc set fetchmaxrows` with appropriate parameters as described below. You can verify this by issuing the command `smc get fetchmaxrows` which will display the value set for this property.

Name

```
smc set fetchmaxrows
```

SYNOPSIS

```
smc set fetchmaxrows <fetch-max-rows>
```

DESCRIPTION

This command is used to set the maximum message fetching count for every fetching step from the database.

The default value is 100 messages.

EXAMPLES

```
smc set fetchmaxrows 200
```

Using GUI

Procedure: Set Max Rows using the GUI

1. In the GUI Management Console for SMSC Gateway, click on 'Server Settings' in the left panel.
2. The main panel will display the existing Settings, segregated into eight horizontal tabs: Properties, SS7 Settings, Cassandra, Scheduler, Diameter, Processing, CDR and Home Routing. Switch to the 'Scheduler' tab in the GUI.
3. You can specify the Max Rows by entering the value in the text field 'Max Rows'. For more details of this parameter, please refer to the description of the CLI command for the same in the preceding section.
4. You must click on the button 'Apply Changes' at the top of the window to save your settings. If there is an error in setting the value, then you will find the details of the error in the Management Console Log section below.

Max Activity Count

Using CLI

You can set the 'Max Activity Count' value by issuing the command `smc set maxactivitycount` with appropriate parameters as described below. You can verify this by issuing the command `smc get maxactivitycount` which will display the value set for this property.

Name

`smsc set maxactivitycount`

SYNOPSIS

`smsc set maxactivitycount <max-activity-count>`

DESCRIPTION

This command is used to set the maximum count of delivering activities that are possible at the same time. 'Count of delivering activities' means the count of messages that are in the state 'delivering' (messages that are fetched from the database and may be already sent or are going to be sent but no delivery acceptance/rejection has been received).

When the delivery process of a message is in progress, field LIVE.IN_SYSTEM==2.

EXAMPLES

`smsc set maxactivitycount 500`

Using GUI

Procedure: Set Max Activity Count using the GUI

1. In the GUI Management Console for SMSC Gateway, click on 'Server Settings' in the left panel.
2. The main panel will display the existing Settings, segregated into eight horizontal tabs: Properties, SS7 Settings, Cassandra, Scheduler, Diameter, Processing, CDR and Home Routing. Switch to the 'Scheduler' tab in the GUI.
3. You can specify the Max Activity Count by entering the value in the text field 'Max Activity Count'. For more details of this parameter, please refer to the description of the CLI command for the same in the preceding section.
4. You must click on the button 'Apply Changes' at the top of the window to save your settings. If there is an error in setting the value, then you will find the details of the error in the Management Console Log section below.

Revise period after SMSC restart

Using CLI

You can set the 'Revise period (in seconds) after SMSC restart' value by issuing the command `smsc set revisesecondsonsmcstart` with appropriate parameters as described below. You can verify this by issuing the command `smsc get revisesecondsonsmcstart` which will display the value set for this property. If unspecified, the default value for this parameter is 60 seconds.

Name

```
smc set revisesecondsonsmcstart <seconds>
```

SYNOPSIS

```
smc set revisesecondsonsmcstart <seconds>
```

DESCRIPTION

This command is used to set the revise period (in seconds). After every restart, the SMSC Gateway will revise the last 'x' seconds before shutdown to ensure that all the arrived messages are processed; where 'x' is the value set in seconds for the parameter 'revisesecondsonsmcstart' using this command.

EXAMPLES

```
smc set revisesecondsonsmcstart 30
```

Using GUI

Procedure: Set Revise Period using the GUI

1. In the GUI Management Console for SMSC Gateway, click on 'Server Settings' in the left panel.
2. The main panel will display the existing Settings, segregated into eight horizontal tabs: Properties, SS7 Settings, Cassandra, Scheduler, Diameter, Processing, CDR and Home Routing. Switch to the 'Scheduler' tab in the GUI.
3. You can specify the revise period in seconds by entering the value in the text field 'Revise period after SMSC restart (sec)'. For more details of this parameter, please refer to the description of the CLI command for the same in the preceding section.
4. You must click on the button 'Apply Changes' at the top of the window to save your settings. If there is an error in setting the value, then you will find the details of the error in the Management Console Log section below.

Cache timeout period

Using CLI

You can set the 'Cache timeout period' value by issuing the command `smc set processingsmssettimeout` with appropriate parameters as described below. You can verify this by issuing the command `smc get processingsmssettimeout` which will display the value set for this property. If unspecified, the default value for this parameter is 600 seconds. Generally, you may not have to modify this value.

Name

```
smsc set processingsmssettimeout <seconds>
```

SYNOPSIS

```
smsc set processingsmssettimeout <seconds>
```

DESCRIPTION

This command is used to set the Cache timeout period (in seconds).

Messages are cached in the SMSC until the processing is completed. In case of a delivery failure, these cached messages are force cleaned by the SMSC after waiting for the timeout period set for the parameter 'processingsmssettimeout' using this command.

EXAMPLES

```
smsc set processingsmssettimeout 45
```

Using GUI

Procedure: Set Cache timeout Period using the GUI

1. In the GUI Management Console for SMSC Gateway, click on 'Server Settings' in the left panel.
2. The main panel will display the existing Settings, segregated into eight horizontal tabs: Properties, SS7 Settings, Cassandra, Scheduler, Diameter, Processing, CDR and Home Routing. Switch to the 'Scheduler' tab in the GUI.
3. You can specify the Cache timeout period in seconds by entering the value in the text field 'Processing Sms set cache timeout (sec)'. For more details of this parameter, please refer to the description of the CLI command for the same in the preceding section.
4. You must click on the button 'Apply Changes' at the top of the window to save your settings. If there is an error in setting the value, then you will find the details of the error in the Management Console Log section below.

Skipping of scheduled for the past and not yet sent messages ("In process" due_slot shifting).

Using CLI

This command will skip of processing / fetching of messages that was scheduled for delivering for the time in the past but have not yet delivered by SMSC GW because of SMSC GW was turned off or overloaded. <time in seconds> means the point of the time (actual current time - <time in seconds>) to which the point of processing / fetching of messages will be shifted. If the value "0" is provided this means SMSC GW will be shifted into an actual (current) time ("in process" due_slot will be shifted to "in time" due_slot). If the value is positive this means SMSC GW "in process" due_slot will be shifted into a some time in the past (for example if the value is 3600 - to the time before the current time ("in time" due_slot) for 1 hour). Negative values are not accepted. "In process" due_slot can be shifted only forward. It is not possible to shift "in process" due_slot backward (and resend messages that was already sent once).

Name

`smsc skipunsentmessages`

SYNOPSIS

`smsc skipunsentmessages <time in seconds>`

DESCRIPTION

Executing of this command leads SMSC GW to switch "In process" due_slot forward to the current time or to some time before the current time. This is possible only if there is some lag in message processing by SMSC GW. This also leads of skipping of sending messages that were scheduled for time in the past but have not delivered so far.

EXAMPLES

`smsc skipunsentmessages 0`

Using GUI

Procedure: Skipping of scheduled for the past and not yet sent messages ("In process" due_slot shifting) by the GUI

1. In the GUI Management Console for SMSC Gateway, click on 'Server Settings' in the left panel.
2. The main panel will display the existing Settings, segregated into eight horizontal tabs: Properties, SS7 Settings, Cassandra, Scheduler, Diameter, Processing, CDR and Home Routing. Switch to the 'Scheduler' tab in the GUI.
3. Set "Skip Unsent Messages (in sec) " field to 0 or positive value.
4. You must click on the button 'Save' that is below to skip scheduled messages. If there is an error in setting the value, then you will find the details of the error in the Management Console Log section below.

Diameter Settings

You can modify Diameter settings using the CLI or GUI.

Destination Realm

Using CLI

You can set the 'Destination Realm' value by issuing the command `smsc set diameterdestrealm` with appropriate parameters as described below. You can verify this by issuing the command `smsc get diameterdestrealm` which will display the value set for this property.

Name

```
smc set diameterdestrealm
```

SYNOPSIS

```
smc set diameterdestrealm <value>
```

DESCRIPTION

This command is used to set the Diameter Destination Realm for connection to OCS. Default value is "mobicents.org".

EXAMPLES

```
smc set diameterdestrealm mobicents.org
```

Using GUI

Procedure: Set Diameter Destination Realm using the GUI

1. In the GUI Management Console for SMSC Gateway, click on 'Server Settings' in the left panel.
2. The main panel will display the existing Settings, segregated into eight horizontal tabs: Properties, SS7 Settings, Cassandra, Scheduler, Diameter, Processing, CDR and Home Routing. Switch to the 'Diameter' tab in the GUI.
3. You can specify the Destination Realm by entering the value in the corresponding text field. For more details of this parameter, please refer to the description of the CLI command for the same in the preceding section.
4. You must click on the button 'Apply Changes' at the top of the window to save your settings. If there is an error in setting the value, then you will find the details of the error in the Management Console Log section below.

Destination Host

Using CLI

You can set the 'Destination Host' value by issuing the command `smc set diameterdesthost` with appropriate parameters as described below. You can verify this by issuing the command `smc get diameterdesthost` which will display the value set for this property.

Name

`smsc set diameterdesthost`

SYNOPSIS

`smsc set diameterdesthost <value>`

DESCRIPTION

This command is used to set the Diameter Destination Host for connection to OCS. Default value is "127.0.0.1".

EXAMPLES

`smsc set diameterdesthost 127.0.0.1`

Using GUI

Procedure: Set Diameter Host using the GUI

1. In the GUI Management Console for SMSC Gateway, click on 'Server Settings' in the left panel.
2. The main panel will display the existing Settings, segregated into eight horizontal tabs: Properties, SS7 Settings, Cassandra, Scheduler, Diameter, Processing, CDR and Home Routing. Switch to the 'Diameter' tab in the GUI.
3. You can specify the Destination Host by entering the value in the corresponding text field. For more details of this parameter, please refer to the description of the CLI command for the same in the preceding section.
4. You must click on the button 'Apply Changes' at the top of the window to save your settings. If there is an error in setting the value, then you will find the details of the error in the Management Console Log section below.

Destination Port

Using CLI

You can set the 'Destination Port' value by issuing the command `smsc set diameterdestport` with appropriate parameters as described below. You can verify this by issuing the command `smsc get diameterdestport` which will display the value set for this property.

Name

```
smsc set diameterdestport
```

SYNOPSIS

```
smsc set diameterdestport <value>
```

DESCRIPTION

This command is used to set the Diameter Destination Port for connection to OCS. Default value is 3868.

EXAMPLES

```
smsc set diameterdestport 3868
```

Using GUI

Procedure: Set Diameter Port using the GUI

1. In the GUI Management Console for SMSC Gateway, click on 'Server Settings' in the left panel.
2. The main panel will display the existing Settings, segregated into eight horizontal tabs: Properties, SS7 Settings, Cassandra, Scheduler, Diameter, Processing, CDR and Home Routing. Switch to the 'Diameter' tab in the GUI.
3. You can specify the Destination Port by entering the value in the corresponding text field. For more details of this parameter, please refer to the description of the CLI command for the same in the preceding section.
4. You must click on the button 'Apply Changes' at the top of the window to save your settings. If there is an error in setting the value, then you will find the details of the error in the Management Console Log section below.

Destination Username

Using CLI

You can set the 'Destination Username' value by issuing the command `smsc set diameterusername` with appropriate parameters as described below. You can verify this by issuing the command `smsc get diameterusername` which will display the value set for this property.

Name

```
smsc set diameterusername
```

SYNOPSIS

```
smsc set diameterusername <value>
```

DESCRIPTION

This command is used to set the Diameter Username for connection to OCS.

EXAMPLES

```
smsc set diameterdestusername svinu
```

Using GUI

Procedure: Set Diameter Username using the GUI

1. In the GUI Management Console for SMSC Gateway, click on 'Server Settings' in the left panel.
2. The main panel will display the existing Settings, segregated into eight horizontal tabs: Properties, SS7 Settings, Cassandra, Scheduler, Diameter, Processing, CDR and Home Routing. Switch to the 'Diameter' tab in the GUI.
3. You can specify the Username by entering the value in the corresponding text field. For more details of this parameter, please refer to the description of the CLI command for the same in the preceding section.
4. You must click on the button 'Apply Changes' at the top of the window to save your settings. If there is an error in setting the value, then you will find the details of the error in the Management Console Log section below.

MO accepting and charging settings

Using CLI

You can set the 'MO (mobile originated) Charging' value by issuing the command `smc set mocharging` with appropriate parameters as described below. You can verify this by issuing the command `smc get mocharging` which will display the value set for this property.

Name

```
smc set mocharging
```

SYNOPSIS

```
smc set mocharging <accept|reject|diameter>
```

DESCRIPTION

This command is used to set the value of the parameter 'moCharging' to an appropriate value. This value is set to "accept" by default.

- accept - all Mobile Originated messages are accepted
- reject - all Mobile Originated messages are rejected
- diameter - all Mobile Originated messages are charged by OCS via Diameter, prior to being sent

EXAMPLES

```
smc set mocharging accept
```

Using GUI

Procedure: Set MO Charge using the GUI

1. In the GUI Management Console for SMSC Gateway, click on 'Server Settings' in the left panel.
2. The main panel will display the existing Settings, segregated into eight horizontal tabs: Properties, SS7 Settings, Cassandra, Scheduler, Diameter, Processing, CDR and Home Routing. Switch to the 'Diameter' tab in the GUI.

3. You can set 'Mobile Originated SMS Charged' value to true or false, in the corresponding list. For more details of this parameter, please refer to the description of the CLI command for the same in the preceding section.
4. You must click on the button 'Apply Changes' at the top of the window to save your settings. If there is an error in setting the value, then you will find the details of the error in the Management Console Log section below.

ESME Charge Settings

Using CLI

You can set the 'ESME Originated SMS Charged' value by issuing the command `smc set txsmppcharging` with appropriate parameters as described below. You can verify this by issuing the command `smc get txsmppcharging` which will display the value set for this property.

Name

```
smc set txsmppcharging
```

SYNOPSIS

```
smc set txsmppcharging <none|selected|all>
```

DESCRIPTION

This command is used to set the value of the parameter 'txsmppcharging' to none, selected or all.

If this is set to 'all', all ESME Originated messages will be charged by OCS via Diameter, prior to being sent.

If this is set to 'selected', only those messages originating from ESMEs marked with the parameter 'charging-enabled'=true at the time of ESME creation will be charged by OCS via Diameter, prior to being sent.

If this is set to 'none', none of the ESME Originated messages will be charged by OCS via Diameter, prior to being sent.

The parameter 'txsmppcharging' is set to 'none' by default.

EXAMPLES

```
smc set txsmppcharging selected
```

Using GUI

Procedure: Set ESME Charge using the GUI

1. In the GUI Management Console for SMSC Gateway, click on 'Server Settings' in the left panel.
2. The main panel will display the existing Settings, segregated into eight horizontal tabs: Properties, SS7 Settings, Cassandra, Scheduler, Diameter, Processing, CDR and Home Routing. Switch to the 'Diameter' tab in the GUI.

3. You can set 'ESME Originated SMS Charged' value to none, selected or all, in the corresponding list. For more details of this parameter, please refer to the description of the CLI command for the same in the preceding section.
4. You must click on the button 'Apply Changes' at the top of the window to save your settings. If there is an error in setting the value, then you will find the details of the error in the Management Console Log section below.

SIP Charge Settings

Using CLI

You can set the 'SIP Originated SMS Charged' value by issuing the command `smc set txsipcharging` with appropriate parameters as described below. You can verify this by issuing the command `smc get txsipcharging` which will display the value set for this property.

Name

```
smc set txsipcharging
```

SYNOPSIS

```
smc set txsipcharging <none|selected|all>
```

DESCRIPTION

This command is used to set the value of the parameter 'txsipcharging' to none, selected or all.

If this is set to 'all', all SIP Originated messages will be charged by OCS via Diameter, prior to being sent.

If this is set to 'selected', only those messages originating from SIPs marked with the parameter 'charging-enabled'=true at the time of SIP creation will be charged by OCS via Diameter, prior to being sent.

If this is set to 'none', none of the SIP Originated messages will be charged by OCS via Diameter, prior to being sent.

The parameter 'txsipcharging' is set to 'none' by default.

EXAMPLES

```
smc set txsipcharging selected
```

Using GUI

Procedure: Set SIP Charge using the GUI

1. In the GUI Management Console for SMSC Gateway, click on 'Server Settings' in the left panel.
2. The main panel will display the existing Settings, segregated into eight horizontal tabs: Properties, SS7 Settings, Cassandra, Scheduler, Diameter, Processing, CDR and Home Routing. Switch to the 'Diameter' tab in the GUI.

3. You can set 'SIP Originated SMS Charged' value to none, selected or all, in the corresponding list. For more details of this parameter, please refer to the description of the CLI command for the same in the preceding section.
4. You must click on the button 'Apply Changes' at the top of the window to save your settings. If there is an error in setting the value, then you will find the details of the error in the Management Console Log section below.

Home routing Charge Settings

Using CLI

You can set the 'Home routing Originated SMS Charged' value by issuing the command `smsc set hrcharging` with appropriate parameters as described below. You can verify this by issuing the command `smsc get hrcharging` which will display the value set for this property.

Name

```
smsc set hrcharging
```

SYNOPSIS

```
smsc set hrcharging <accept|reject|diameter>
```

DESCRIPTION

This command is used to set the value of the parameter 'hrcharging' to an appropriate value. This value is set to "accept" by default. This option works like mocharging option but affects on SS7 messages in home routing mode from upper SMSC (mocharging affects on mobile originated SS7 incoming messages).

- accept - all Home Routing originated messages are accepted
- reject - all Home Routing originated messages are rejected
- diameter - all Home Routing Originated messages are charged by OCS via Diameter, prior to being sent

EXAMPLES

```
smsc set hrcharging accept
```

Using GUI

Procedure: Set Home Routing Charge using the GUI

1. In the GUI Management Console for SMSC Gateway, click on 'Server Settings' in the left panel.
2. The main panel will display the existing Settings, segregated into eight horizontal tabs: Properties, SS7 Settings, Cassandra, Scheduler, Diameter, Processing, CDR and Home Routing. Switch to the 'Diameter' tab in the GUI.
3. You can set 'Home Routed SMS Charged' value to none, selected or all, in the corresponding list. For more details of this parameter, please refer to the description of the CLI command for the same in the preceding section.
4. You must click on the button 'Apply Changes' at the top of the window to save your settings. If

there is an error in setting the value, then you will find the details of the error in the Management Console Log section below.

Home Routing Settings

RestComm SMSC Gateway supports Non Transparent Home Routing as explained in 3GPP 23.840 5.2.3. This option can be disabled by setting "hrcharging" option to "reject" (see [Home routing Charge Settings](#)). SMSC GW will accept SendRoutinInfo requests from a remote SMSC, then create a unique "correlationId" value for a requested MSISDN, then send SendRoutinInfo request to HLR, store received by HLR info into a cache and sends back to the remote SMSC SendRoutinInfo response with "correlationId" value in IMSI field and SMSC GlobalTytle (or another special configured GlobalTytle value) in LocationInfo field. Then SMSC GW will accept MtForwardSM messages from the remote SMSC, seaches in the cache for "correlationId" and HLR subscriber's and use this data for processing a message further.

Correlation table CC and MCC-MNC for home routing mode managing.

For home routing mode we may need to fill a special table for correlation between CC (CountryCodes) of incoming MSISDN address and MCC-MNC prefix of a generated correlationId value. CorrelationId value will be returned as IMSI in SRI response to an upper SMSC GW. As an extra field "smc" field can be specified for each entry of this table. If this field is specified and not empty then this value will be returned as a LocationInfo in SRI response to an upper SMSC GW, else SMSC GW address will be returned. Correlation table is stored into "jboss-5.1.0.GA/server/<server instance, for example 'default'>"/data" and has name "SmscManagement_cc_mccmnc.xml". The content of this should follow the following template:

```
<?xml version="1.0" encoding="UTF-8" ?>
<CcMccmncCollection>
  <ccMccmncList>
    <ccMccmnc countryCode="0111" mccMnc="77702"/>
    <ccMccmnc countryCode="0222" mccMnc="9999999"/>
    <ccMccmnc countryCode="02" mccMnc="8888888" smc="06060606"/>
    <ccMccmnc countryCode="" mccMnc="22323"/>
  </ccMccmncList>
</CcMccmncCollection>
```

The file structure consists on one or several instances of countryCode / mccMnc pairs. When SMSC GW reads a correlation table from the file (or when a user add new entries into the table) it sorts it so that the longer CountryCode values (more detailed "CountryCode") are put at first places of the list then shorter CountryCode values. For example "44779" will be before "44". First found "mccMnc" value will be used for correlationId generating. When SMSC GW receives a SRI request from an upper SMSC GW it looks throught the table, checks if incoming MSISDN digits start from countryCode value from a table entry. The last entry in the correlation table must be empty ("") countryCode value. This entry will be used as a default value. All MSISDN that are not fit to any other entries will use mccMnc of the entry of "". You can also add an optional extra field "smc" into any record. This value will be used as LocationInfo field in SendRoutinInfo response.

Living time of elements in correlation cache

Using CLI

In home routing mode SMSC GW specifies correlationId for any recieved SRI requests from upper SMSC. After it this correlationId value and corresponded to MSISDN data are stored into internal cache and will be used for processing of next coming MtForwardSM messages from other SMSC. Correlationidlifetime value defines how much time minimum is correlationId in cache. You can set the 'correlationidlifetime' option by issuing the command `smsc set correlationidlifetime` with appropriate parameters as described below. You can verify this by issuing the command `smsc get correlationidlifetime` which will display the value set for this property.

Also pay attention that when Telestax SMSC delivers messages received under "home routing" procedure SMSC GW will try to reuse location info and IMSI data that SMSC GW has obtained when request to HLR under "home routing" procedure. SMSC GW will try to reuse this info only till it is kept in correlationId cache. When ForwardAndStore and datagram modes this is usually achived in correlationidlifetime is 60 seconds. In StoreAndForward mode messages delivery can be started some time after messages have come to SMSC GW. This delay depends on both SMSC GW setting (first delivery attempt) and SMSC GW overloadload rate. For StoreAndForward mode we need to calucate a proper correlationidlifetime value depending on othe SMSC setting. But do not make this value too big - this will waste memory and location info can occure too old.

Name

```
smsc set correlationidlifetime
```

SYNOPSIS

```
smsc set correlationidlifetime <digital option>
```

DESCRIPTION

This command is used to set min time duration for which correlationId and corresponded data kept in cache. Max duratuion is two times more then correlationidlifetime. Value is in seconds.

Default value: 60 (seconds).

EXAMPLES

```
smsc set correlationidlifetime 90
```

Using GUI

Procedure: Setting of living time of elements in correlation cache using the GUI

1. In the GUI Management Console for SMSC Gateway, click on 'Server Settings' in the left panel.
2. The main panel will display the existing Settings, segregated into eight horizontal tabs: Properties, SS7 Settings, Cassandra, Scheduler, Diameter, Processing, CDR and Home Routing. Switch to the 'Home Routing' tab in the GUI.
3. You can specify CDR generation option by selecting an appropriate value in the field

"Correlation Id Cache Time (in secs)". For more details of this parameter, please refer to the description of the CLI command for the same in the preceding section.

4. You must click on the button 'Save' at the top of the window to save your settings. If there is an error in setting the value, then you will find the details of the error in the Management Console Log section below.

Bypassing of SRI request to a local HLR

Using CLI

SMSC GW home routing procedure for each networkId area can be configured to send or do not send SendRoutinInfo request to a local HLR. This is configured by parameter "hrsribypass". Default value is "false" - this means that SMSC GW will send SRI requests to local HLR before sending back SRI response.

Messageflow for home routing procedure when hrsribypass==false

SRI request: remote SMSC GW → TelScale SMSC GW

SRI request: TelScale SMSC GW → local HLR

SRI response: local HLR → TelScale SMSC GW

SRI response: TelScale SMSC GW → remote SMSC GW

MT request: remote SMSC GW → TelScale SMSC GW

MT response: TelScale SMSC GW → remote SMSC GW

Messageflow for home routing procedure when hrsribypass==true (SRI request to local HLR bypassing)

SRI request: remote SMSC GW → TelScale SMSC GW

SRI response: TelScale SMSC GW → remote SMSC GW

MT request: remote SMSC GW → TelScale SMSC GW

MT response: TelScale SMSC GW → remote SMSC GW You can set the 'hrsribypass' option by issuing the command `smc set hrsribypass` with appropriate parameters as described below. You can verify this by issuing the command `smc get hrsribypass` which will display the value set for this property.

Name

`smsc set hrsribypass`

SYNOPSIS

`smsc set hrsribypass <digital option> networkid <networkId>`

DESCRIPTION

This command is used to set if SMSC GW will bypass a SRI to a local HLR.

`networkId` - specifies a virtual SS7 subnetwork (this is for Multi-tenancy support). By using of this command with different `networkIds` you can specify `hrsribypass` for several subnetworks.

If this parameter is skipped - `networkId` will be set to "0".

If you have not specified `hrsribypass` parameter for a `networkId` then a master `hrsribypass` will be used (that was specified for `networkId 0`).

Default value: false.

EXAMPLES

`smsc set hrsribypass true`

`smsc set hrsribypass false networkid <networkId>`

Using GUI

Procedure: Setting of living time of elements in correlation cache using the GUI

1. In the GUI Management Console for SMSC Gateway, click on 'Server Settings' in the left panel.
2. The main panel will display the existing Settings, segregated into eight horizontal tabs: Properties, SS7 Settings, Cassandra, Scheduler, Diameter, Processing, CDR and Home Routing. Switch to the 'Home Routing' tab in the GUI.
3. You can specify `hrsribypass` option by selecting an appropriate value in the field "Bypassing of SRI request to a local HLR" for a specified `networkId`. For more details of this parameter, please refer to the description of the CLI command for the same in the preceding section.
4. You must click on the button 'Save' at the top of the window to save your settings. If there is an error in setting the value, then you will find the details of the error in the Management Console Log section below.

Create an entry for correlation table CC and MCC-MNC

Using CLI

In home routing mode SMSC GW we may need to specify the correlation table CC and MCC-MNC ([Correlation table CC and MCC-MNC for home routing mode managing](#)). You can add an entry of this table by issuing the command `smsc hrccmccmnc add` with appropriate parameters as described below.

Name

```
smc hrccmccmnc add
```

SYNOPSIS

```
smc hrccmccmnc add <countrycode> <mccmnc> smcgt <smcgt>
```

DESCRIPTION

This command is used to add an entry to the correlation table CC and MCC-MNC. smcgt parameter is optional. If it is missed will be set] to "null" value. For "null" value for <smcgt> we can to specify "-1" value in CLI.

EXAMPLES

```
smc hrccmccmnc add 2223 55322 smcgt 733211232342
```

Using GUI

Procedure: Creation an entry for correlation table CC and MCC-MNC using the GUI

1. In the GUI Management Console for SMSC Gateway, click on 'Home Routing CC - MCC MNC Table' in the left panel.
2. You can add an entry of the table - you can specify "Country Code", "Mobile Country Code and Mobile Network Code", "Global Title" (optionally) and press "Add" button. For more details of this parameter, please refer to the description of the CLI command for the same in the preceding section.

Modification of an entry for correlation table CC and MCC-MNC

Using CLI

In home routing mode SMSC GW we may need to specify the correlation table CC and MCC-MNC ([Correlation table CC and MCC-MNC for home routing mode managing](#)). You can modify an entry of this table by issuing the command `smc hrccmccmnc modify` with appropriate parameters as described below.

Name

```
smc hrccmccmnc modify
```

SYNOPSIS

```
smc hrccmccmnc modify <countrycode> <mccmnc> smcgt <smc-gt>
```

DESCRIPTION

This command is used to modify an entry to the correlation table CC and MCC-MNC.

smcgt parameter is optional. If this parameter is missed smcgt value will not be updated. To set "null" value for <smc-gt> we need to specify "-1" value in CLI.

EXAMPLES

```
smc hrccmccmnc modify 2223 55322 smcgt 733211232342
```

Using GUI

Procedure: Modification of an entry for correlation table CC and MCC-MNC using the GUI

1. In the GUI Management Console for SMSC Gateway, click on 'Home Routing CC - MCC MNC Table' in the left panel.
2. You can modify an entry of the table - you can specify "Country Code", "Mobile Country Code and Mobile Network Code", "Global Title" (optionally) and press "Update" button. For more details of this parameter, please refer to the description of the CLI command for the same in the preceding section.

Removing of an entry for correlation table CC and MCC-MNC

Using CLI

In home routing mode SMSC GW we may need to specify the correlation table CC and MCC-MNC ([Correlation table CC and MCC-MNC for home routing mode managing](#)). You can remove an entry of this table by issuing the command `smc hrccmccmnc remove` with appropriate parameters as described below.

Name

```
smc hrccmccmnc remove
```

SYNOPSIS

```
smc hrccmccmnc remove <countrycode>
```

DESCRIPTION

This command is used to remove an entry to the correlation table CC and MCC-MNC.

EXAMPLES

```
smc hrccmccmnc remove 2223
```

Using GUI

Procedure: Removing of an entry for correlation table CC and MCC-MNC using the GUI

1. In the GUI Management Console for SMSC Gateway, click on 'Home Routing CC - MCC MNC Table' in the left panel.
2. You can delete an entry of the table you - can specify "Country Code" and press "Delete" button. For more details of this parameter, please refer to the description of the CLI command for the same in the preceding section.

Displaying of an entry / full list of correlation table CC and MCC-MNC

Using CLI

In home routing mode SMSC GW we may need to specify the correlation table CC and MCC-MNC ([Correlation table CC and MCC-MNC for home routing mode managing](#)). You can observe an entry or a full list of this table by issuing the command `smc hrccmccmnc show` with appropriate parameters as described below.

Name

```
smc hrccmccmnc show
```

SYNOPSIS

```
smc hrccmccmnc show <countrycode>
```

DESCRIPTION

This command is used to display of content of an entry or a full list of the correlation table CC and MCC-MNC. <countrycode> is an optional parameter. If you specify it data for only this entry will be displayed. If not - data for all entries of that table.

EXAMPLES

```
smc hrccmccmnc show 2223
```

Using GUI

Procedure: Displaying of an entry for correlation table CC and MCC-MNC using the GUI

1. In the GUI Management Console for SMSC Gateway, click on 'Home Routing CC - MCC MNC Table' in the left panel.
2. You can view content of an entry of the table you or of all table. For viewing of one entry you need to specify "Country Code". Then press "View" button. Results will be shown in the bottom of the screen For more details of this parameter, please refer to the description of the CLI command for the same in the preceding section.

CDR

CDR generation

Using CLI

SMSC GW can store CDR records for each delivered or failed for delivering messages into log file (see [\[cdr_logging_settings\]](#)). Which records will be stored is defined by 'generatecdr' SMSC option. You can set the 'generatecdr' option by issuing the command `smsc set generatecdr` with appropriate parameters as described below. You can verify this by issuing the command `smsc get generatecdr` which will display the value set for this property.

Name

```
smsc set generatecdr
```

SYNOPSIS

```
smsc set generatecdr <digital option>
```

DESCRIPTION

This command is used to set which messages (or none) will be stored into CDR log file. Details of CDR log format can be found in "8.2. CDR Log"

Options will have following bits values:

bit 1 - records will be done for SMPP originated messages with datagram mode

bit 2 - records will be done for SMPP originated messages with transactional mode

bit 4 - records will be done for SMPP originated messages with storeAndForward mode and for all SS7 or SIP originated messages

Value 0 will mean store none and value 7 - store all.

Default value: 7 (store all)

EXAMPLES

```
smsc set generatecdr 7
```

Using GUI

Procedure: Set CDRs generation SMSC option using the GUI

1. In the GUI Management Console for SMSC Gateway, click on 'Server Settings' in the left panel.
2. The main panel will display the existing Settings, segregated into eight horizontal tabs: Properties, SS7 Settings, Cassandra, Scheduler, Diameter, Processing, CDR and Home Routing. Switch to the 'Properties' tab in the GUI.
3. You can specify CDR generation option by selecting an appropriate value in the field "CDR generation". For more details of this parameter, please refer to the description of the CLI command for the same in the preceding section.
4. You must click on the button 'Apply Changes' at the top of the window to save your settings. If there is an error in setting the value, then you will find the details of the error in the Management Console Log section below.

Archive table generation

Using CLI

SMSC GW can store CDR records for each delivered or failed for delivering messages into special archive tables of cassandra database. Names of such tables have the following format: `MESSAGES_yyyy_mm_dd`. You can refer to fields definitions in [\[messages_yyyy_mm_dd\]](#) chapter. Which records will be stored is defined by 'generatearchivetable' SMSC option. You can set the 'generatearchivetable' option by issuing the command `smsc set generatearchivetable` with appropriate parameters as described below. You can verify this by issuing the command `smsc get generatearchivetable` which will display the value set for this property.

Name

```
smsc set generatearchivetable
```

SYNOPSIS

```
smsc set generatearchivetable <digital option>
```

DESCRIPTION

This command is used to set which messages (or none) will be stored into archive tables. Options will have following bits values:

bit 1 - records will be done for SMPP originated messages with datagramm mode

bit 2 - records will be done for SMPP originated messages with transactional mode

bit 4 - records will be done for SMPP originated messages with storeAndForward mode and for all SS7 or SIP originated messages

Value 0 will mean store none and value 7 - store all.

Default value: 7 (store all)

EXAMPLES

```
smsc set generatearchivetable 7
```

Using GUI

Procedure: Set archive table CDRs generation SMSC option using the GUI

1. In the GUI Management Console for SMSC Gateway, click on 'Server Settings' in the left panel.
2. The main panel will display the existing Settings, segregated into eight horizontal tabs: Properties, SS7 Settings, Cassandra, Scheduler, Diameter, Processing, CDR and Home Routing. Switch to the 'Properties' tab in the GUI.
3. You can specify archive table CDR generation option by selecting an appropriate value in the field "Archive table generation". For more details of this parameter, please refer to the description of the CLI command for the same in the preceding section.
4. You must click on the button 'Apply Changes' at the top of the window to save your settings. If there is an error in setting the value, then you will find the details of the error in the Management Console Log section below.

Generate CDR for Receipt Messages

Using CLI

You can set the 'generatereceiptcdr' value to true/false by issuing the command `smsc set generatereceiptcdr` with appropriate parameters as described below. You can verify this by issuing the command `smsc get generatereceiptcdr` which will display the value set for this property.

Name

```
smsc set generatereceiptcdr
```

SYNOPSIS

```
smsc set generatereceiptcdr <true | false>
```

DESCRIPTION

The SMSC can be configured to generate CDR for both receipt and regular messages or generate CDR only for regular messages. By default the SMSC will generate CDR for regular messages only. However if you require the SMSC to generate CDR for receipt messages as well, you must set the parameter 'generatereceiptcdr' to true.

Using GUI

Procedure: Set 'generate CDR for receipt messages' using the GUI

1. In the GUI Management Console for SMSC Gateway, click on 'Server Settings' in the left panel.
2. The main panel will display the existing Settings, segregated into eight horizontal tabs: Properties, SS7 Settings, Cassandra, Scheduler, Diameter, Processing, CDR and Home Routing. Switch to the 'Properties' tab in the GUI.
3. You can specify if the SMSC should generate CDR for receipt messages by choosing the value true for the field 'Generate receipt CDR'. For more details of this parameter, please refer to the description of the CLI command for the same in the preceding section.
4. You must click on the button 'Apply Changes' at the top of the window to save your settings. If there is an error in setting the value, then you will find the details of the error in the Management Console Log section below.

Processing

SMSC pausing

Using CLI

A user can pause SMSC for message delivering by issuing the command `smsc set deliverypause` with appropriate parameters as described below. When SMSC delivery is paused no more messages are scheduled for delivering. When SMSC is configured in ForwardAndStore (fast) mode all incoming messages will be rejected. When SMSC is configured in StoreAndForward (normal) mode datagram and transactional SMPP originated messages will be rejected but StoreAndForward SMPP originated and all SS7 / SIP originated messages will be stored into cassandra database

without delivery attempts. Use this option with extreme caution.

Name

```
smsc set deliverypause
```

SYNOPSIS

```
smsc set deliverypause <true|false>
```

DESCRIPTION

Setting to true puts SMSC GW into a pause mode and setting to false (default value) returns SMSC GW to a normal message processing.

EXAMPLES

```
smsc set deliverypause true
```

Using GUI

Procedure: Pause SMSC using the GUI

1. In the GUI Management Console for SMSC Gateway, click on 'Server Settings' in the left panel.
2. You can select "true" or "false" value. For more details of this parameter, please refer to the description of the CLI command for the same in the preceding section.
3. You must click on the button 'Apply Changes' at the top of the window to save your settings. If there is an error in setting the value, then you will find the details of the error in the Management Console Log section below.

Disabling of Reciepts generating

Using CLI

SMCS can generate receipts of messages delivering results (success / error). See chapter "Appendix B. Delivery Receipt Format" of "Short Message Peer to Peer. Protocol Specification v3.4." You can set the 'receiptsdisabling' value to true/false by issuing the command `smsc set receiptsdisabling` with appropriate parameters as described below. You can verify this by issuing the command `smsc get receiptsdisabling` which will display the value set for this property.

Name

```
smsc set receiptsdisabling
```

SYNOPSIS

```
smsc set receiptsdisabling <true | false>
```

DESCRIPTION

The SMSC can be configured to generat or not delivery receipts.
Setting of receiptsdisabling to false enables of receipts generation.
Setting of receiptsdisabling to true disables of receipts generation.
Default value: false (receipts will be generated).

Using GUI

Procedure: Disabling of Receipts generating using the GUI

1. In the GUI Management Console for SMSC Gateway, click on 'Server Settings' in the left panel.
2. The main panel will display the existing Settings, segregated into eight horizontal tabs: Properties, SS7 Settings, Cassandra, Scheduler, Diameter, Processing, CDR and Home Routing. Switch to the 'Processing' tab in the GUI.
3. You can specify if the SMSC should disable of receipt generating by setting the value for the field 'Disable Delivery Receipt' to true or false accordingly. For more details of this parameter, please refer to the description of the CLI command for the same in the preceding section.
4. You must click on the button 'Save' at the top of the window to save your settings. If there is an error in setting the value, then you will find the details of the error in the Management Console Log section below.

Routing of delivery receipts

Using CLI

If this option is turned on for each generated delivery receipt networkId will be assigned to the value of networkId of an ESME via which the original message has come to SMSC. This can help for routing of receipts back to the originated ESME. If this option is turned off then the networkId of receipts will be taken from networkId of ESME / SS7 / SIP via which the original message has left SMSC GW. You can configure this option by issuing the command `smsc set orignetworkidforreceipts` with appropriate parameters as described below.

Name

```
smsc set orignetworkidforreceipts
```

SYNOPSIS

```
smsc set orignetworkidforreceipts <true | false>
```

DESCRIPTION

Settings of this option will affect of which networkId will be assigned to a message delivery receipt.

true: networkId of the connector via which an original message has left SMSC GW

false: networkId of the connector via which an original message has come SMSC GW. This value is default.

Using GUI

Procedure: Routing of delivery receipts option update by the GUI

1. In the GUI Management Console for SMSC Gateway, click on 'Server Settings' in the left panel.
2. The main panel will display the existing Settings, segregated into eight horizontal tabs: Properties, SS7 Settings, Cassandra, Scheduler, Diameter, Processing, CDR and Home Routing.

Switch to the 'Processing' tab in the GUI.

3. You can specify routing of delivery receipts by setting the value for the field 'Delivery receipts will be routed to the origination networkId' to true or false accordingly. For more details of this parameter, please refer to the description of the CLI command for the same in the preceding section.
4. You must click on the button 'Save' at the top of the window to save your settings. If there is an error in setting the value, then you will find the details of the error in the Management Console Log section below.

SMPP Server Settings

View SMPP Server Details

Using GUI

Procedure: View SMPP Server Details using the GUI

1. In the GUI Management Console for SMSC Gateway, click on 'SMPP Server' in the left panel.
2. The main panel will display the existing SMPP Server details as configured in the section **SmscManagement** in the xml descriptor file `restcomm-smsc-<version>/jboss-5.1.0.GA/server/<profile>/deploy/restcomm-smsc-server/META-INF/jboss-beans.xml`.
3. You can view the current Session details of the SMPP Server by clicking on the row corresponding to the name of the SMPP Server (**SmscManagement** in this case).

Edit SMPP Server Properties

Using CLI

You can edit the properties of the SMPP Server by issuing appropriate commands for every property as described below:

Name

```
smppserver set port
```

SYNOPSIS

```
smppserver set port <port>
```

DESCRIPTION

This command is used to set the port that the SMSC server is listening to for incoming bind request.

If unspecified, the default port is 2776.

You must restart the SMPP Server for the new value to take effect.

Name

```
smppserver set bindtimeout
```

SYNOPSIS

```
smppserver set bindtimeout <bind-timeout>
```

DESCRIPTION

This command is used to set a value for bind-timeout in milli-seconds. Once the TCP socket is established, the SMSC server will wait for the time period specified by the parameter bind-timeout in milli-seconds, for the peer to send a bind request, after which it will kill the TCP socket.

If unspecified, the default value is 5000 milli-seconds.

You must restart the SMPP Server for the new value to take effect.

Name

```
smppserver set systemid
```

SYNOPSIS

```
smppserver set systemid <system-id>
```

DESCRIPTION

This command is used to set the value for system-id. This is the 'system-id' included in the Bind response.

You must restart the SMPP Server for the new value to take effect.

Name

```
smppserver set autonegotiateversion
```

SYNOPSIS

```
smppserver set autonegotiateversion <true/false>
```

DESCRIPTION

This command is used to specify if auto-negotiate-version is enabled or not. If it is set to 'true' and a Bind is received with version <= 3.3 for interface version, then it is normalized to version 3.3. If a Bind is received with version >= 3.4 for interface version, it is normalized to version 3.4.

The default value is true.

You must restart the SMPP Server for the new value to take effect.

Name

```
smppserver set interfaceversion
```

SYNOPSIS

```
smppserver set interfaceversion <interface-version>
```

DESCRIPTION

This command is used to specify the SMPP version that the Server supports.

You must restart the SMPP Server for the new value to take effect.

Name

```
smppserver set maxconnectionsize
```

SYNOPSIS

```
smppserver set maxconnectionsize <max-connection-size>
```

DESCRIPTION

This command is used to specify the maximum number of connections/sessions this Server is expected to handle.

You must restart the SMPP Server for the new value to take effect.

Name

```
smppserver set defaultwindowsize
```

SYNOPSIS

```
smppserver set defaultwindowsize <defaultwindowsize>
```

DESCRIPTION

This command is used to specify the default window size for this Server. The window size is the amount of unacknowledged requests that are permitted to be outstanding/unacknowledged at any given time. If more requests are added, the underlying stack will throw an exception.

The default value is 100.

You must restart the SMPP Server for the new value to take effect.

Name

```
smppserver set defaultwindowwaittimeout
```

SYNOPSIS

```
smppserver set defaultwindowwaittimeout <default-window-wait-timeout>
```

DESCRIPTION

This command is used to specify the default-window-wait-timeout for this Server in milli-seconds.

The window wait timeout is the time within which the connection to remote SMSC Server should be established.

The default value is 30000 milli seconds.

You must restart the SMPP Server for the new value to take effect.

Name

```
smppserver set defaultrequestexpirytimeout
```

SYNOPSIS

```
smppserver set defaultrequestexpirytimeout <default-request-expiry-timeout>
```

DESCRIPTION

This command is used to specify the default-request-expiry-timeout for the Server in milli-seconds. The request expiry timeout is the time to wait for an end-point to respond to before it expires.

The default value is 30000 milli seconds.

You must restart the SMPP Server for the new value to take effect.

Name

```
smppserver set defaultwindowmonitorinterval
```

SYNOPSIS

```
smppserver set defaultwindowmonitorinterval <default-window-monitor-interval>
```

DESCRIPTION

This command is used to specify the default-window-monitor-interval for the Server in milli-seconds. This is the time between executions of monitoring the window for requests that expire. It is recommended that this value, generally, either matches or is half the value of 'request-expiry-timeout'. Therefore, in the worst case scenario, a request could take upto 1.5 times the 'requestExpiryTimeout' to clear out.

The default value is 15000 milli seconds.

You must restart the SMPP Server for the new value to take effect.

Name

```
smppserver set defaultsessioncountersenabled
```

SYNOPSIS

```
smppserver set defaultsessioncountersenabled <true/false>
```

DESCRIPTION

This command is used to set the parameter 'defaultsessioncountersenabled' value to true or false.

When this is enabled, SMSC exposes the statistics for SMPP connections.

The default value is true.

You must restart the SMPP Server for the new value to take effect.

Using GUI

Procedure: Edit SMPP Server Properties using GUI

1. In the GUI Management Console for SMSC Gateway, click on 'SMPP Server' in the left panel.
2. The main panel will display the existing SMPP Server details as configured in the section **SmscManagement** in the xml descriptor file `restcomm-smsc-<version>/jboss-5.1.0.GA/server/<profile>/deploy/restcomm-smsc-server/META-INF/jboss-beans.xml`.
3. You can edit the properties of the SMPP Server by launching the edit window. You can achieve this by clicking on the blue coloured 'edit' button at the end of the row. The edit window will display all SMPP properties as shown in the figure below. For more details of these parameters please refer to the descriptions of the CLI commands for the same in the preceding section.



Figure 1. SMPP Server - GUI - Restcomm SMSC

- To edit any property, click on the edit icon of the row corresponding to the property. This action will display an editable text field for the property as shown in the figure above. Adjacent to the editable text field, you will find a 'tick' icon and a 'x' icon. To accept the newly entered value for the property, you must click on the 'tick' icon. To discard the change and stop the editing of the property, you must click on the 'x' icon.

SMPP Server can be setup for SSL so every incoming connection request should first do SSL hand-shake. Settingup SSL is only possible from GUI.

- You must click on the button 'Apply Changes' at the top of the window to save your settings. If there is an error in setting the value, then you will find the details of the error in the Management Console Log section below.

Start SMPP Server

Using GUI

Procedure: Start SMPP Server using GUI

- In the GUI Management Console for SMSC Gateway, click on 'SMPP Server' in the left panel.
- The main panel will display the existing SMPP Server details as configured in the section **SmscManagement** in the xml descriptor file `restcomm-smsc-<version>/jboss-5.1.0.GA/server/<profile>/deploy/restcomm-smsc-server/META-INF/jboss-beans.xml`.
- You can start the SMPP Server by clicking on the 'Start' icon lit green in the row corresponding to the SmscManagement unit. This icon will be enabled only if the SMPP server is currently stopped.
- This action will start the SMPP Server.
- If there is an error in starting the SMPP Server, then you will find the details of the error in the Management Console Log section below.

Stop SMPP Server

Using GUI

Procedure: Stop SMPP Server using GUI

1. In the GUI Management Console for SMSC Gateway, click on 'SMPP Server' in the left panel.
2. The main panel will display the existing SMPP Server details as configured in the section **SmscManagement** in the xml descriptor file `restcomm-smsc-<version>/jboss-5.1.0.GA/server/<profile>/deploy/restcomm-smsc-server/META-INF/jboss-beans.xml`.
3. You can stop the SMPP Server by clicking on the 'Stop' icon lit red in the row corresponding to the SmscManagement unit. This icon will be enabled only if the SMPP server is currently running.
4. This action will stop the SMPP Server.
5. If there is an error in stopping the SMPP Server, then you will find the details of the error in the Management Console Log section below.

Reset Counters for SMPP Server

Using GUI

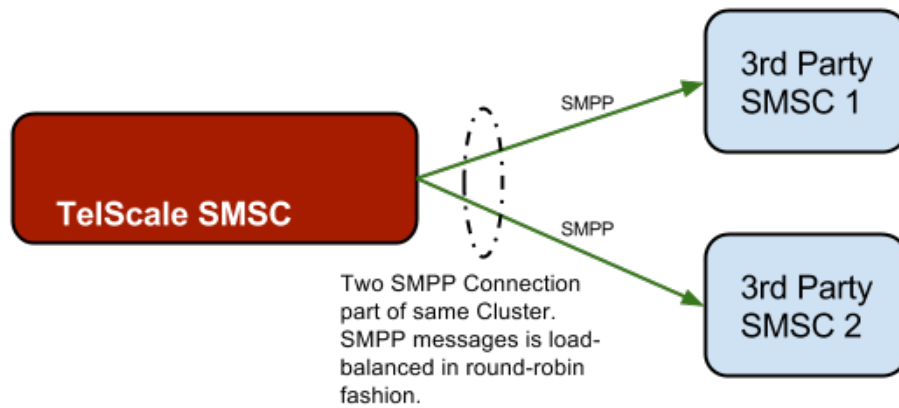
Procedure: Reset Counters for SMPP Server using GUI

1. In the GUI Management Console for SMSC Gateway, click on 'SMPP Server' in the left panel.
2. The main panel will display the existing SMPP Server details as configured in the section **SmscManagement** in the xml descriptor file `restcomm-smsc-<version>/jboss-5.1.0.GA/server/<profile>/deploy/restcomm-smsc-server/META-INF/jboss-beans.xml`.
3. You can view the current Session details of the SMPP Server by clicking on the row corresponding to the name of the SMPP Server (**SmscManagement** in this case).
4. This action will display the current session details of the SMPP Server. If you scroll to the bottom, you will find a button named 'Reset Counters'. Click on it if you wish to reset all counters for SMPP Server.
5. If there is an error resetting the counters, then you will find the details of the error in the Management Console Log section below.

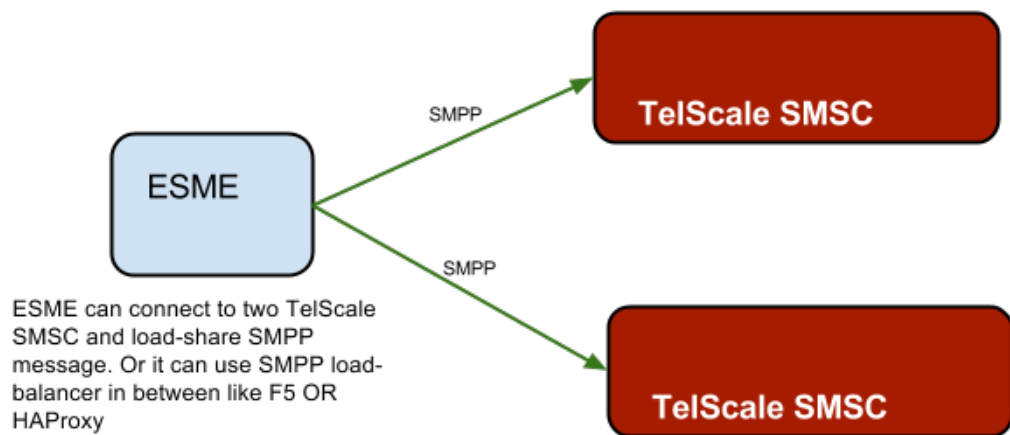
External Short Messaging Entities (ESMEs)

&THIS.PLATFORM;&THIS.APPLICATION; can now act as ESME (initiate bind to remote SMSC) or can also act as SMSC (accept bind from remote ESME). While defining an ESME (SMPP connection), you can optionally pass the Cluster name. If it is not passed, cluster name is same as ESME name. As the name suggests, its now possible to group different ESMEs in the same cluster. This is useful only when SMS is suppose to be routed out of &THIS.PLATFORM;&THIS.APPLICATION; to ESME. If there are multiple ESME's in a cluster, the load is shared in a round robin fashion to send out SMS. In case if one of the ESME is in **UNBOUND** state, the next **BOUND** smpp connection (within same cluster) will be used. Below diagram explains the load-balancing between SMPP connections

Case 1 : SMSC acting as CLIENT



Case 2 : SMSC acting as SERVER



Case 3 : SMSC acting as SERVER - Load balancing via HAProxy

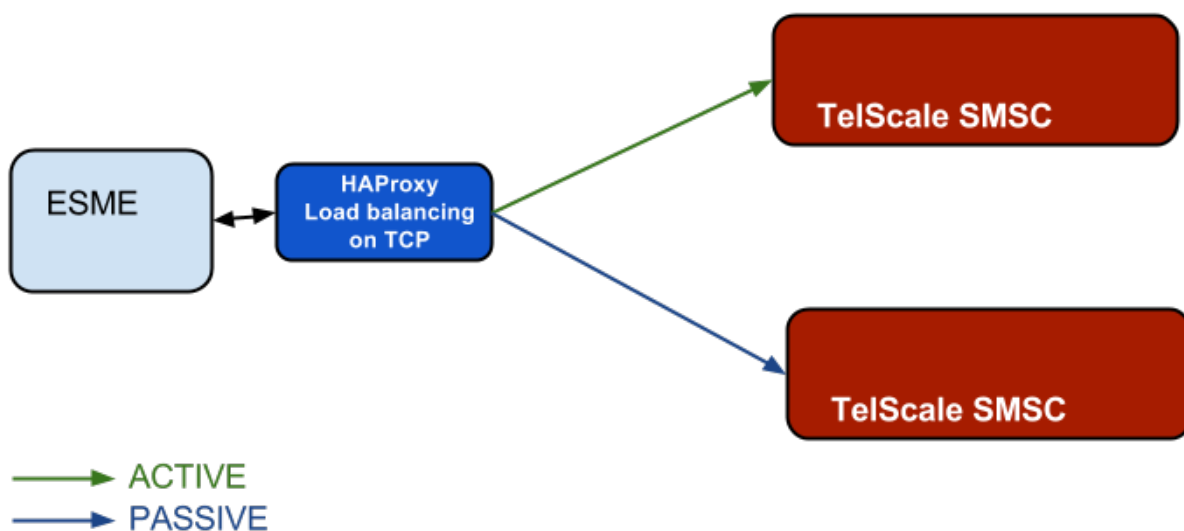


Figure 2. SMPP Load Balancing

You can define multiple ESMEs, each with a unique name but the same `systemId` and declare their `host-ip` and `port` values as -1 (only for SMPP type Server). The SMSC will now accept multiple incoming BIND requests from any IP and any port as far as the `systemId` and `Password` matches.

Alternatively, if you declare a real value for `host-ip`(say for example 10.199.7.23) and `port` as -1, the SMSC will accept as many BINDS as ESMEs defined from the specified IP but any port as far as the `systemId` and `Password` matches.

Create new ESME

Using CLI

You can configure a new ESME by issuing the command ``smpp esme create`` with appropriate parameters as described below.

Name

```
smpp esme create
```

SYNOPSIS

```
smpp esme create name <systemId> <host-ip> <port> <SmppBindType>
<SmppSession.Type> password <password> networkid <networkId>
system-type <sms | vms | ota >
interface-version <3.3 | 3.4 | 5.0> esme-ton <esme address ton>
esme-npi <esme address npi> esme-range <esme address range>
cluster-name <clusterName> window-size <windowSize>
connect-timeout <connectTimeout> request-expiry-timeout <requestExpiryTimeout>
window-monitor-interval <windowMonitorInterval>
window-wait-timeout <windowWaitTimeout> counters-enabled <true | false>
enquire-link-delay <30000> charging-enabled <true | false>
source-ton <source address ton> source-npi <source address npi>
source-range <source address range> routing-ton <routing address ton>
routing-npi <routing address npi> routing-range <routing address range>
ratelimit-second <ratelimitsecond> ratelimit-minute <ratelimitminute>
ratelimit-hour <ratelimithour> ratelimit-day <ratelimitday>
min-message-length <min-message-length value>
max-message-length <max-message-length value>
national-language-locking-shift <NationalLanguageIdentifier value>
national-language-single-shift <NationalLanguageIdentifier value>
```

DESCRIPTION

This command is used to configure a new ESME.

PARAMETERS

Standard Parameters

Name	- A unique name for this ESME configuration. You can
------	--

define as many ESMEs as you want as far as the name is unique and the combination of SystemId:host-ip:port:SmppBindType is unique.

- System Id** - This is used to identify an ESME or an SMSC at bind time. An 'ESME system_id' identifies the ESME or ESME agent to the SMSC. The 'SMSC system_id' provides an identification of the SMSC to the ESME. You can define multiple ESMEs, each with a unique name but the same <literal>systemId<literal> to allow anonymous incoming binds and multiple binds from the same IP depending on the values specified for host-ip and port.
- host-ip & port** - If the SMSC is acting as an ESME, the BIND request will be sent to the configured IP and Port. If the SMSC is acting as a Server, it will accept incoming BIND requests from the specified IP and Port. If the port is unknown, you must pass '-1' as wild character.

When you define multiple ESMEs with the same systemId, if host-ip and port values are -1 (for SMPP type Server), the SMSC will accept multiple incoming BIND requests from any IP:port as long as the systemId and password match.

When you define multiple ESMEs with the same systemId, if host-ip is a real value (a specific IP) and port value is -1, the SMSC will accept as many BINDS as ESMEs defined from the specified IP but any port as long as the systemId and password match.

- SmppBindType** - Possible values: TRANSCEIVER, TRANSMITTER or RECEIVER. If the SMSC is acting as an ESME, it will initiate corresponding bind. If the SMSC is acting as a Server, it will accept corresponding bind from a remote ESME.

- SmppSession.Type** - Possible values: SERVER or CLIENT. If the value is 'SERVER', the SMSC acts as a Server listening for incoming SMPP binds. If the value is 'CLIENT', the SMSC will initiate SMPP bind to a remote Server.

Optional Parameters

- Password** - It is used by the SMSC to authenticate the identity of the binding ESME. The Service Provider may require ESME's to provide a password when binding to the SMSC.
- networkId** - indicates virtual subnetwork that this ESME belongs. SMS flows within same networkId, unless changed using mproc

(this is for multi-tenancy support). If this parameter is skipped - networkId will be set to "0" when ESME creation. If you do not use multi-tenancy support - set this value to 0 or skip.

system-type - Default value is null.

This is used to categorize the type of ESME that is binding to the SMSC.

interface-version - Default value is 3.4.

It is used to indicate the version of the SMPP protocol.

It is set in 'SMPPServer Settings'.

esme-ton - Defines ESME TON. If the SMPP Session Type is CLIENT, this TON will be used in the BIND request. If the SMPP Session Type is SERVER, the incoming BIND request should have the same TON as configured here. If the configured value is null (-1), SMSC will ignore it in both cases.

esme-npi - Defines ESME NPI. If the SMPP Session Type is CLIENT, this NPI will be used in the BIND request. If the SMPP Session Type is SERVER, the incoming BIND request should have the same NPI as configured here. If the configured value is null (-1), SMSC will ignore it in both cases.

esme-range - Defines ESME Address Range. If the SMPP Session Type is CLIENT, this Address Range will be used in the BIND request. If the SMPP Session Type is SERVER, the incoming BIND request should have the same Address Range as configured here. If the configured value is null (-1), SMSC will ignore it in both cases.

cluster-name - If it is not specified then its same as the name. It is possible to group different SMPP connections together by specifying the same cluster-name. All the SMPP connection's that are capable of sending out SMS are candidates for grouping.

window-size - Default value is 1.

The window size is the amount of unacknowledged requests that are permitted to be outstanding/unacknowledged at any given time. If more requests are added, the underlying stack will throw an exception.

This value is set only when ESME is defined as Client side. For Server side this value is taken from the 'SMPP Server Settings'.

connect-timeout - Default value is 10000 milli seconds.

This parameter is used to specify the time within which the connection to a remote SMSC server should be established.

This is useful only when ESME is defined as Client Side. For Server side this value is taken from the the 'SMPP Server Settings'.

`request-expiry-timeout` - Default value is -1 (disabled).

This parameter is used to specify the time to wait in milli seconds for an endpoint to respond to before it expires.

This is useful only when ESME is defined as Client Side. For Server side this value is taken from the the 'SMPP Server Settings'.

`window-monitor-interval` - Default value is -1 (disabled).

This parameter is used to specify the time between executions of monitoring the window for requests that expire. It is recommended that this value, generally, either matches or is half the value of 'request-expiry-timeout'. Therefore, in the worst case scenario, a request could take upto 1.5 times the 'requestExpiryTimeout' to clear out.

This is useful only when ESME is defined as Client Side. For Server side this value is taken from the the 'SMPP Server Settings'.

`window-wait-timeout` - Default value is 60000 milli seconds.

This parameter is used to specify the time to wait until a slot opens up in the 'sendWindow'.

This is useful only when ESME is defined as Client Side. For Server side this value is taken from the the 'SMPP Server Settings'.

`counters-enabled` - Default value is true.

When this is enabled, SMSC exposes the statistics for SMPP connections.

This is useful only when ESME is defined as Client Side. For Server side this value is taken from the the 'SMPP Server Settings'.

`enquire-link-delay` - Default value is 30000 milli seconds.

When SMSC connects to a remote server as CLIENT, it sends an 'ENQUIRE_LINK' after every configured enquire-link-delay.

- charging-enabled** - Flag to enable or disable charging for every SMS arriving from SIP.
- source-ton** - Every SMS coming into the SMSC via this ESME should have the same 'source_addr_ton' as the value configured here.
- If this configured value is null(-1) or not null and matches, the SMSC will compare the 'source_addr_npi' and 'source_addr_range' as explained below.
- If it doesn't match, the SMSC will reject this SMS with an error code '0x0000000A' indicating Invalid Source Address.
- source-npi** - Every SMS coming into the SMSC via this ESME should have the same 'source_addr_npi' as the value configured here.
- If this configured value is null(-1) or not null and matches, the SMSC will compare the 'source_addr_range' as below.
- If it doesn't match, the SMSC will reject this SMS with an error code '0x0000000A' indicating Invalid Source Address.
- source-range** - Every SMS coming into the SMSC via this ESME should have the same 'source_addr_range' as the value configured here. This is a regular java expression and default value is `^[0-9a-zA-Z]*`.
- If it matches, the SMSC will accept the incoming SMS and process further.
- If it doesn't match, the SMSC will reject this SMS with an error code '0x0000000A' indicating Invalid Source Address.
- routing-ton** - The DefaultSmsRoutingRule will try to match the 'dest_addr_ton' of outgoing SMS with the value configured here. If this configured value is null(-1) or not null and matches, the SMSC will compare the 'dest_addr_npi' and 'destination_addr' as explained below. If it doesn't match, the SMSC will select the next ESME in the list for matching routing rule.
- DefaultSmsRoutingRule will consider ESME for routing only if
- 1) SmppBindType is TRANSCEIVER
 - 2) SmppBindType is RECEIVER and

SmppSession.Type is SERVER
3) SmppBindType is TRANSMITTER and
SmppSession.Type is CLIENT

routing-npi - The DefaultSmsRoutingRule will try to match the 'dest_addr_npi' of outgoing SMS with the value configured here. If this configured value is null(-1) or not null and matches, the SMSC will compare the 'destination_addr' as below. If it doesn't match, the SMSC will select the next ESME in the list for matching routing rule.

DefaultSmsRoutingRule will consider ESME for routing only if

1) SmppBindType is TRANSCEIVER
2) SmppBindType is RECEIVER and
SmppSession.Type is SERVER
3) SmppBindType is TRANSMITTER and
SmppSession.Type is CLIENT

routing-range - The DefaultSmsRoutingRule will try to match the 'destination_addr' of outgoing SMS with the value configured here. This is a regular java expression and default value is `^[0-9a-zA-Z]*`. If it matches, the SMSC will send the SMS out over this SMPP connection. If it doesn't match, the SMSC will select the next ESME in the list for matching routing rule.

DefaultSmsRoutingRule will consider ESME for routing only if

1) SmppBindType is TRANSCEIVER
2) SmppBindType is RECEIVER and
SmppSession.Type is SERVER
3) SmppBindType is TRANSMITTER and
SmppSession.Type is CLIENT

ratelimit_second - This parameter is used to specify a maximum limit of messages that the SMSC will accept from this ESME during any one second.

If the ESME sends more messages (per second) than the maximum limit specified by 'ratelimit_second', these additional messages will be rejected by the SMSC GW along with an error code - "throttled".

The default value for this parameter is "0" and it implies "no restrictions". If this parameter is not specified it implies "no restrictions".

ratelimit_minute - This parameter is used to specify a maximum limit of messages that the SMSC will accept from this ESME

during any one minute.

If the ESME sends more messages (per minute) than the maximum limit specified by 'ratelimit_minute', these additional messages will be rejected by the SMSC GW along with an error code - "throttled".

The default value for this parameter is "0" and it implies "no restrictions". If this parameter is not specified it implies "no restrictions".

`ratelimit_hour` - This parameter is used to specify a maximum limit of messages that the SMSC will accept from this ESME during any one hour.

If the ESME sends more messages (per hour) than the maximum limit specified by 'ratelimit_hour', these additional messages will be rejected by the SMSC GW along with an error code - "throttled".

The default value for this parameter is "0" and it implies "no restrictions". If this parameter is not specified it implies "no restrictions".

`ratelimit_day` - This parameter is used to specify a maximum limit of messages that the SMSC will accept from this ESME during any one day.

If the ESME sends more messages (per day) than the maximum limit specified by 'ratelimit_day', these additional messages will be rejected by the SMSC GW along with an error code - "throttled".

The default value for this parameter is "0" and it implies "no restrictions". If this parameter is not specified it implies "no restrictions".

`min-message-length` - This parameter is used to specify the minimum message length (in characters) acceptable to the SMSC GW, for messages coming from this ESME.

If an incoming message length is less than the min-message-length it will be rejected by SMSC GW.

The default value for this parameter is "-1" and it implies "no limitations". Any other negative value also implies "no limitations".

`max-message-length` - This parameter is used to specify the maximum message length (in characters) acceptable to the SMSC GW, for messages coming from this ESME.

If an incoming message length is more than the max-message-length it will be rejected by SMSC GW.

The default value for this parameter is "-1" and it implies "no limitations". Any other negative value also implies "no limitations".

`national-language-locking-shift` - National language locking shift table can be configured for messages that have come via SMPP (this ESME), do not have UDHS inside and have GSM7 encoding (DCS==0). The default GSM data coding table is mostly used. Possible values:
= 0: default GSM data coding table
= 13: urdu (arabic) national language shift table
=1: the national language locking shift value must be obtained from the option `national-language-locking-shift` that is defined at SMSC GW general level.

`national-language-single-shift` - National language single shift table can be configured for messages that have come via SMPP (this ESME), do not have UDHS inside and have GSM7 encoding (DCS==0). The default GSM data coding table is mostly used. Possible values:
= 0: default GSM data coding table
= 13: urdu (arabic) national language single table
=1: the national language locking shift value must be obtained from the option `national-language-locking-single` that is defined at SMSC GW general level.

Using GUI

Procedure: Create new ESME using GUI

1. In the GUI Management Console for SMSC Gateway, click on 'ESMEs' in the left panel.
2. The main panel will display the existing ESMEs (if any), one each in a row with corresponding actions (start, stop, delete, update) for each row. Below this you will find the button 'Create ESME'.
3. You can create a new ESME by launching the 'Create ESME' window by clicking on the blue coloured 'Create ESME' button. The 'Create ESME' window will display all ESME parameters that must be defined by you. For more details of these parameters please refer to the descriptions of the CLI commands for the same in the preceding section.
4. Enter appropriate values for all the parameters and then click on the 'Create' button at the bottom of this 'Create ESME' window. This action will create a new ESME with parameters as defined by you.

5. If there is an error in defining the ESME, then you will find the details of the error in the Management Console Log section below.

Modify ESME

Using CLI

You can modify an existing ESME by issuing the command `smpp esme modify` with appropriate parameters as described below.

Name

`smpp esme modify`

SYNOPSIS

```
smpp esme modify <name> password <Specify new password>
networkid <networkId>
esme-ton <esme address ton> esme-npi <esme address npi>
esme-range <esme address range> window-size <windowSize>
connect-timeout <connectTimeout> request-expiry-timeout <requestExpiryTimeout>
window-monitor-interval <windowMonitorInterval>
window-wait-timeout <windowWaitTimeout> counters-enabled <true | false>
enquire-link-delay <30000> charging-enabled <true | false>
source-ton <source address ton> source-npi <source address npi>
source-range <source address range> routing-ton <routing address ton>
routing-npi <routing address npi> routing-range <routing address range>
ratelimit-second <ratelimitsecond> ratelimit-minute <ratelimitminute>
ratelimit-hour <ratelimithour> ratelimit-day <ratelimitday>
min-message-length <min-message-length value>
max-message-length <max-message-length value>
national-language-locking-shift <NationalLanguageIdentifier value>
national-language-single-shift <NationalLanguageIdentifier value>
```

DESCRIPTION

This command is used to modify the settings of an existing ESME configuration.

PARAMETERS

Standard Parameters

Name - The name of the ESME that is being modified.

Optional Parameters

Password - Specify the new password.
It is used by the SMSC to authenticate the identity of the binding ESME. The Service Provider may require ESMEs to provide a password when binding to the SMSC.

The new value takes effect when SMPP is restarted.

networkId	<p>- indicates virtual subnetwork that this ESME belongs. SMS flows within same networkId, unless changed using mproc (this is for multi-tenancy support). If this parameter is skipped - networkId will be set to "0" when ESME creation. If you do not use multi-tenancy support - set this value to 0 or skip.</p>
esme-ton	<p>- Specify new ESME TON.</p> <p>If the SMPP Session Type is CLIENT, this TON will be used in the BIND request. If the SMPP Session Type is SERVER, the incoming BIND request should have the same TON as configured here. If the configured value is null (-1), SMSC will ignore it in both cases.</p> <p>The new value takes effect when SMPP is restarted.</p>
esme-npi	<p>- Specify new ESME NPI.</p> <p>If the SMPP Session Type is CLIENT, this NPI will be used in the BIND request. If the SMPP Session Type is SERVER, the incoming BIND request should have the same NPI as configured here. If the configured value is null (-1), SMSC will ignore it in both cases.</p> <p>The new value takes effect when SMPP is restarted.</p>
esme-range	<p>- Specify ESME Address Range.</p> <p>If the SMPP Session Type is CLIENT, this Address Range will be used in the BIND request. If the SMPP Session Type is SERVER, the incoming BIND request should have the same Address Range as configured here. If the configured value is null (-1), SMSC will ignore it in both cases.</p> <p>The new value takes effect when SMPP is restarted.</p>
window-size	<p>- Specify new window size.</p> <p>Default value is 1.</p> <p>The window size is the amount of unacknowledged requests that are permitted to be outstanding/unacknowledged at any given time. If more requests are added, the underlying stack will throw an exception.</p> <p>This value is set only when ESME is defined as Client side. For Server side this value is taken from the 'SMPP Server Settings'.</p> <p>The new value takes effect when SMPP is restarted.</p>
connect-timeout	<p>- Default value is 10000 milli seconds.</p> <p>This parameter is used to specify the time within which</p>

the connection to a remote SMSC server should be established.

This is useful only when ESME is defined as Client Side. For Server side this value is taken from the the 'SMPP Server Settings'.

The new value takes effect when SMPP is restarted.

`request-expiry-timeout` - Default value is -1 (disabled).

This parameter is used to specify the time to wait in milli seconds for an endpoint to respond to before it expires.

This is useful only when ESME is defined as Client Side. For Server side this value is taken from the the 'SMPP Server Settings'.

The new value takes effect when SMPP is restarted.

`window-monitor-interval` - Default value is -1 (disabled).

This parameter is used to specify the time between executions of monitoring the window for requests that expire. It is recommended that this value, generally, either matches or is half the value of 'request-expiry-timeout'. Therefore, in the worst case scenario, a request could take upto 1.5 times the 'requestExpiryTimeout' to clear out.

This is useful only when ESME is defined as Client Side. For Server side this value is taken from the the 'SMPP Server Settings'.

The new value takes effect when SMPP is restarted.

`window-wait-timeout` - Default value is 60000 milli seconds.

This parameter is used to specify the time to wait until a slot opens up in the 'sendWindow'.

This is useful only when ESME is defined as Client Side. For Server side this value is taken from the the 'SMPP Server Settings'.

The new value takes effect when SMPP is restarted.

`counters-enabled` - Default value is true.

When this is enabled, SMSC exposes the statistics for SMPP connections.

This is useful only when ESME is defined as Client Side. For Server side this value is taken from the

the 'SMPP Server Settings'.

The new value takes effect when SMPP is restarted.

`enquire-link-delay` - Default value is 30000 milli seconds.

When SMSC connects to a remote server as CLIENT, it sends an 'ENQUIRE_LINK' after every configured `enquire-link-delay`.

The new value takes effect immediately.

`charging-enabled` - Flag to enable or disable charging for every SMS arriving from SIP.

The new value takes effect immediately.

`source-ton` - Every SMS coming into the SMSC via this ESME should have the same 'source_addr_ton' as the value configured here.

If this configured value is null(-1) or not null and matches, the SMSC will compare the 'source_addr_npi' and 'source_addr_range' as explained below.

If it doesn't match, the SMSC will reject this SMS with an error code '0x0000000A' indicating Invalid Source Address.

The new value takes effect immediately.

`source-npi` - Every SMS coming into the SMSC via this ESME should have the same 'source_addr_npi' as the value configured here.

If this configured value is null(-1) or not null and matches, the SMSC will compare the 'source_addr_range' as below.

If it doesn't match, the SMSC will reject this SMS with an error code '0x0000000A' indicating Invalid Source Address.

The new value takes effect immediately.

`source-range` - Every SMS coming into the SMSC via this ESME should have the same 'source_addr_range' as the value configured here. This is a regular java expression and default value is `^[0-9a-zA-Z]*`.

If it matches, the SMSC will accept the incoming SMS and process further.

If it doesn't match, the SMSC will reject this SMS with an error code '0x0000000A' indicating Invalid Source Address.

The new value takes effect immediately.

routing-ton - The DefaultSmsRoutingRule will try to match the 'dest_addr_ton' of outgoing SMS with the value configured here. If this configured value is null(-1) or not null and matches, the SMSC will compare the 'dest_addr_npi' and 'destination_addr' as explained below. If it doesn't match, the SMSC will select the next ESME in the list for matching routing rule.

DefaultSmsRoutingRule will consider ESME for routing only if

- 1) SmppBindType is TRANSCEIVER
- 2) SmppBindType is RECEIVER and SmppSession.Type is SERVER
- 3) SmppBindType is TRANSMITTER and SmppSession.Type is CLIENT

The new value takes effect immediately.

routing-npi - The DefaultSmsRoutingRule will try to match the 'dest_addr_npi' of outgoing SMS with the value configured here. If this configured value is null(-1) or not null and matches, the SMSC will compare the 'destination_addr' as below. If it doesn't match, the SMSC will select the next ESME in the list for matching routing rule.

DefaultSmsRoutingRule will consider ESME for routing only if

- 1) SmppBindType is TRANSCEIVER
- 2) SmppBindType is RECEIVER and SmppSession.Type is SERVER
- 3) SmppBindType is TRANSMITTER and SmppSession.Type is CLIENT

The new value takes effect immediately.

routing-range - The DefaultSmsRoutingRule will try to match the 'destination_addr' of outgoing SMS with the value configured here. This is a regular java expression and default value is `^[0-9a-zA-Z]*`. If it matches, the SMSC will send the SMS out over this SMPP connection. If it doesn't match, the SMSC will select the next ESME in the list for matching routing rule.

DefaultSmsRoutingRule will consider ESME for routing only if

- 1) SmppBindType is TRANSCEIVER
- 2) SmppBindType is RECEIVER and SmppSession.Type is SERVER
- 3) SmppBindType is TRANSMITTER and SmppSession.Type is CLIENT

The new value takes effect immediately.

ratelimit_second - This parameter is used to specify a maximum limit of messages that the SMSC will accept from this ESME during any one second.

If the ESME sends more messages (per second) than the maximum limit specified by 'ratelimit_second', these additional messages will be rejected by the SMSC GW along with an error code - "throttled".

The default value for this parameter is "0" and it implies "no restrictions". If this parameter is not specified it implies "no restrictions".

ratelimit_minute - This parameter is used to specify a maximum limit of messages that the SMSC will accept from this ESME during any one minute.

If the ESME sends more messages (per minute) than the maximum limit specified by 'ratelimit_minute', these additional messages will be rejected by the SMSC GW along with an error code - "throttled".

The default value for this parameter is "0" and it implies "no restrictions". If this parameter is not specified it implies "no restrictions".

ratelimit_hour - This parameter is used to specify a maximum limit of messages that the SMSC will accept from this ESME during any one hour.

If the ESME sends more messages (per hour) than the maximum limit specified by 'ratelimit_hour', these additional messages will be rejected by the SMSC GW along with an error code - "throttled".

The default value for this parameter is "0" and it implies "no restrictions". If this parameter is not specified it implies "no restrictions".

ratelimit_day - This parameter is used to specify a maximum limit of messages that the SMSC will accept from this ESME

during any one day.

If the ESME sends more messages (per day) than the maximum limit specified by 'ratelimit_day', these additional messages will be rejected by the SMSC GW along with an error code - "throttled".

The default value for this parameter is "0" and it implies "no restrictions". If this parameter is not specified it implies "no restrictions".

min-message-length - This parameter is used to specify the minimum message length (in characters) acceptable to the SMSC GW, for messages coming from this ESME.

If an incoming message length is less than the min-message-length it will be rejected by SMSC GW.

The default value for this parameter is "-1" and it implies "no limitations". Any other negative value also implies "no limitations".

max-message-length - This parameter is used to specify the maximum message length (in characters) acceptable to the SMSC GW, for messages coming from this ESME.

If an incoming message length is more than the max-message-length it will be rejected by SMSC GW.

The default value for this parameter is "-1" and it implies "no limitations". Any other negative value also implies "no limitations".

SEE ALSO

smc get scgt, smc set scgt, smc get scssn, smc set scssn, smc get hlrssn, smc set hlrssn, smc get mscssn, smc set mscssn, smc get maxmapv, smc set maxmapv, smpp esme create

Using GUI

Procedure: Modify an existing ESME using GUI

1. In the GUI Management Console for SMSC Gateway, click on 'ESMEs' in the left panel.
2. The main panel will display the existing ESMEs (if any), one each in a row with corresponding actions (start, stop, delete, update) for each row.
3. You can update an existing by launching the 'ESME <name> properties' window by clicking on the blue coloured 'Update ESME' button. The 'ESME <name> properties' window will display all ESME parameters that can be updated by you. For more details of these parameters please refer to the descriptions of the CLI commands for the same in the preceding section.

ESME can be setup for SSL so every connection request should first do SSL hand-shake. Settingup SSL is only possible from GUI. After creating the ESME, users can edit property and enable SSL.



Only CLIENT ESME's (one that sends BIND request) can be enabled for SSL.

4. Update appropriate values for all the parameters and then click on the 'Close' button. This action will modify a new ESME with parameters as defined by you.
5. If there is an error in defining the ESME, then you will find the details of the error in the Management Console Log section below.

View ESME Details

Using CLI

You can view the details of all configured ESMEs by issuing the command `smpp esme show` as described below.

Name

```
smpp esme show
```

SYNOPSIS

```
smpp esme show
```

DESCRIPTION

This command is used to list all configured ESMEs.

Using GUI

Procedure: View ESME using the GUI

1. In the GUI Management Console for SMSC Gateway, click on 'ESMEs' in the left panel.
2. The main panel will display the existing ESMEs (if any), one each in a row with corresponding actions (start, stop, delete) for each row.
3. You can view the details of an ESME by clicking on the row corresponding to the ESME. All relevant details of the ESME will be displayed in an expanded format.

Delete an existing ESME

Using CLI

You can delete any ESME by issuing the command `smpp esme delete` with appropriate parameters as described below.

Name

`smpp esme delete`

SYNOPSIS

`smpp esme delete <esmeName>`

DESCRIPTION

This command is used to delete an existing ESME.

PARAMETERS

`esmeName` - Name of the ESME to be destroyed.

Using GUI

Procedure: Delete ESME using the GUI

1. In the GUI Management Console for SMSC Gateway, click on 'ESMEs' in the left panel.
2. The main panel will display the existing ESMEs (if any), one each in a row with corresponding actions (start, stop, delete) for each row.
3. To delete an existing ESME click on the delete icon marked 'x' in red, for the row corresponding to the ESME. You can delete an ESME only if it is stopped.

Start ESME

Using CLI

You can start an ESME by issuing the command `smpp esme start` with appropriate parameters as described below.

Name

`smpp esme start`

SYNOPSIS

`smpp esme start <esmeName>`

DESCRIPTION

This command is used to start an existing ESME.

PARAMETERS

`esmeName` - Name of the ESME to be started.

Using GUI

Procedure: Start ESME using the GUI

1. In the GUI Management Console for SMSC Gateway, click on 'ESMEs' in the left panel.
2. The main panel will display the existing ESMEs (if any), one each in a row with corresponding

actions (start, stop, delete) for each row.

3. To start an existing ESME click on the start icon lit in green, for the row corresponding to the ESME. You can start an ESME only if it is currently stopped.

Stop ESME

Using CLI

You can stop an ESME by issuing the command `smpp esme stop` with appropriate parameters as described below.

Name

`smpp esme stop`

SYNOPSIS

DESCRIPTION

This command is used to stop an already running ESME.

PARAMETERS

`esmeName` - Name of the ESME to be stopped.

Using GUI

Procedure: Stop ESME using the GUI

1. In the GUI Management Console for SMSC Gateway, click on 'ESMEs' in the left panel.
2. The main panel will display the existing ESMEs (if any), one each in a row with corresponding actions (start, stop, delete) for each row.
3. To stop an ESME click on the stop icon lit in red, for the row corresponding to the ESME. You can stop an ESME only if it is currently running.

Other ESME Operations

Using GUI

You can perform more operations in the GUI for any configured ESME. You can enable/disable Log Bytes and Log Pdu, dump window and reset counters.

Procedure: Other ESME Operations using the GUI

1. In the GUI Management Console for SMSC Gateway, click on 'ESMEs' in the left panel.
2. The main panel will display the existing ESMEs (if any), one each in a row with corresponding actions (start, stop, delete) for each row.
3. You can view the details of an ESME by clicking on the row corresponding to the ESME. All relevant details of the ESME will be displayed in an expanded format.

- At the bottom of this expanded display you will find 6 buttons allowing you to perform the operations DisableLogBytes, DisableLogPdu, DumpWindow, EnableLogBytes, EnableLogPdu and ResetCounters.

SIP Settings

Restcomm SMSC comes with default JSLEE SIP RA. You can modify the SIP settings using the CLI or GUI.

Using CLI

You can modify the SIP settings by issuing the command `smc sip modify` with appropriate parameters as described below. You can view the settings by issuing the command `smc sip show` which will display all the values.

Name

`smc sip modify`

SYNOPSIS

```
smc sip modify name cluster-name <clusterName> host <ip> port <port>
routing-ton <routing address ton> routing-npi <routing address npi>
routing-range <routing address range> counters-enabled <true | false>
charging-enabled <true | false> networkid <networkId>
```

DESCRIPTION

This command is used to modify SIP settings.

PARAMETERS

Standard Parameters

- | | |
|--------------|--|
| Name | - The name of the SIP Stack that is being modified. Since the Gateway does not allow creating more than one SIP Stack presently, the name is hardcoded to "SIP". |
| Cluster-name | - The name of the Cluster to which this SIP Stack belongs to. This parameter is not used presently and is meant for future use when Cluster of SIP is enabled. |
| Host | - IP address of the remote node to which all SIP messages must be forwarded. |
| Port | - Port of the remote node to which all SIP messages must be forwarded. |
| routing-ton | - The DefaultSmsRoutingRule will try to match the 'dest_addr_ton' of outgoing SMS with the value configured here. If this configured value is null(-1) |

or not null and matches, the SMSC will compare the 'dest_addr_npi' and 'destination_addr' as explained below. If it doesn't match, the SMSC will select the next SIP in the list for matching routing rule.

- routing-npi - The DefaultSmsRoutingRule will try to match the 'dest_addr_npi' of outgoing SMS with the value configured here. If this configured value is null(-1) or not null and matches, the SMSC will compare the 'destination_addr' as below. If it doesn't match, the SMSC will select the next SIP in the list for matching routing rule.
- routing-range - The DefaultSmsRoutingRule will try to match the 'destination_addr' of outgoing SMS with the value configured here. This is a regular java expression and default value is null. If it matches, the SMSC will send the SMS out over this SIP connection. If it doesn't match, the SMSC will select the next ESME in the list for matching routing rule.
- counters-enabled - Flag to enable or disable counters. Not used presently.
- charging-enabled - Flag to enable or disable charging for every SMS arriving from SIP.
- networkId - means to which virtual subnetwork belongs the SIP connector (this is for multi-tenancy support). Default value is 0. If you do not use multi-tenancy support - set this value to 0.

Using GUI

Procedure: Managing the SIP Connection using the GUI

1. In the GUI Management Console for SMSC Gateway, click on 'SIPs' in the left panel.
2. The main panel will display the existing SIP settings. You can view and modify the SIP settings in this panel.

MAP Version Cache

Restcomm SMSC caches the negotiated MAP Version for each network node. Cache stores the Global Title of SCCP address of the network node. Every MT SMS sent to this node will use the cached Version. This will help in reducing the MAP Version negotiation duration everytime and hence improve the performance.

Using CLI

You can set the 'MAP Version Cache' value by issuing the command `smsc mapcache set` with appropriate parameters as described below. You can verify this by issuing the command `smsc mapcache get` which will display all the cached values. Alternatively you can retrieve the cached value for a specific node by issuing the command `smsc mapcache get <node_digits>`. You can clear the cache by issuing the command `smsc mapcache clear`.

Name

`smsc mapcache set`

SYNOPSIS

`smsc mapcache set <node_digits> <version>`

DESCRIPTION

This command is used to set the version for the specific node digits. SMSC Gateway caches the negotiated MAP Version for each network node. Every MT SMS sent to this node will use the cached Version.

Using GUI

Procedure: Managing MAP Version Cache value using the GUI

1. In the GUI Management Console for SMSC Gateway, click on 'MAP Version Cache' in the left panel.
2. You can specify the MAP Application Context version for every node by entering the value for Node Digits and choosing the Version for MAP MtForwardSm operation.
3. You must click on the button 'Update' to save your settings. If there is an error in setting the value, then you will find the details of the error in the Management Console Log section below.
4. To view the cached version value for a specific node, enter the node digits (under View Cache) and click on the "View" button. The cached value will be displayed in the log.
5. To clear all the cached values, click on the "Clear Cache" button.

Database Routing Rules

Restcomm SMSC can now act as a SMPP Server accepting incoming SMPP connections or can also act as a SMPP client initiating a connection to a remote SMSC server. Therefore you can now set an intelligent database routing rule to route SMS between SMPP connections or between SMPP, SIP and GSM.

By default, Restcomm SMSC is setup to leverage the "routing address-range" to decide the routing of SMS. For example:

- 1) If Server ESME is defined of type RECEIVER (and hence accepts incoming RECEIVER BIND from peer client) with routing address range as 6666; if SMS arrives in system destined for 6666, it matches with this ESME and SMS will be sent as DELIVER_SM to client side.

2) If Client ESME is defined of type TRANSMITTER (and hence initiates TRANSMITTER BIND to peer server) with routing address range as 6666; if SMS arrives in system destined for 6666, it matches with this ESME and SMS will be sent as SUBMIT_SM to server side.

The destined number of SMS is checked with address range. Restcomm SMSC uses regular expression for matching the pattern.

The above methodology can work if the routing rule is based on MSISDN range, however if the range is not fixed (like in case of Number Portability) the above process will break. In such cases you can define a Database routing rule. You must change the value of the property `smsRoutingRuleClass` in the file `RestComm-smscgateway-<version>/jboss-5.1.0.GA/server/default/deploy/restcomm-smsc-server/META-INF/jboss-beans.xml` to look like below and un-comment if its commented out:

```
<property
name="smsRoutingRuleClass">org.mobicenss.smsc.smpp.DatabaseSmsRoutingRule</property>
```

SMSC stores the routing rule in the Cassandra Database. You can populate this table with address and corresponding cluster name as explained in the sections below.

Create/Update Database Routing Rule

Using CLI

You can create or update a Database Routing Rule using the command `smsc databaserule update` with appropriate parameters as described below:

Name

`smsc databaserule update`

SYNOPSIS

`smsc databaserule update <address> <systemId> <SMPP|SIP> networkid <networkId>`

DESCRIPTION

This command is used to add or update a Database Rule for SMPP or SIP.

The parameter `<SMPP|SIP>` is used to define if the rule is for SMPP or SIP. This is an optional parameter and if unspecified, by default the rule is set for SMPP.

Database Rules are Rules that are used for routing messages to a proper ESME. When you define a rule using the above command, you are creating a routing rule that states:

"If the destination address of a message corresponds with the value specified in the 'address' field, then the message be sent to an ESME identified by the value specified in the 'systemId' field".

To add a new rule you must issue the command with the `systemId` parameter and specify if the rule is for SIP or SMPP.

To update an existing rule, you must issue the command with both the `address` parameter and the `systemId` parameter and specify if the rule is for SIP or SMPP.

`networkId` - means to which virtual SS7 subnetwork belongs a database routing rule (this is for Multi-tenancy support). If this parameter is skipped - `networkId` will be set to "0" for a database routing rule operation.

Using GUI

Procedure: Create/Update Database Routing Rule using the GUI

1. In the GUI Management Console for SMSC Gateway, click on 'DB Routing Rule' in the left panel.
2. The main panel will allow you to create/update, delete and view DB Routing Rules for SMPP or SIP.
3. In order to create or update a DB Routing Rule, choose the type as SMPP or SIP from the drop down box, enter the values for MSISDN and ESME cluster name and click on 'Update'. A new rule will be created if it does not exist or updated if it exists.

Delete Database Routing Rule

Using CLI

You can delete a Database Routing Rule using the command `smsc databaserule delete` with appropriate parameters as described below:

Name

`smsc databaserule delete`

SYNOPSIS

`smsc databaserule delete <address> <SMPP|SIP> networkid <networkId>`

DESCRIPTION

This command is used to delete an existing Database Rule specified for 'address'.

The parameter <SMPP|SIP> is used to define if the rule is deleted for SMPP or SIP. This is an optional parameter and if unspecified, by default the rule is deleted for SMPP.

networkId - means to which virtual SS7 subnetwork belongs a database routing rule (this is for Multi-tenancy support). If this parameter is skipped - networkId will be set to "0" for a database routing rule operation.

Using GUI

Procedure: Delete Database Routing Rule using the GUI

1. In the GUI Management Console for SMSC Gateway, click on 'DB Routing Rule' in the left panel.
2. The main panel will allow you to create/update, delete and view DB Routing Rules for SMPP or SIP.
3. In order to delete a DB Routing Rule, choose the type as SMPP or SIP from the drop down box, enter the value for MSISDN and click on 'Delete'. The routing rule corresponding to that MSISDN will be deleted.

View Database Routing Rule Information

Using CLI

You can view a Database Routing Rule using the command `smsc databaserule get` with appropriate parameters as described below:

Name

`smsc databaserule get`

SYNOPSIS

`smsc databaserule get <address> <SMPP|SIP> networkid <networkId>`

DESCRIPTION

This command is used to view the details of an existing Database Rule specified for 'address'.

The parameter <SMPP|SIP> is used to define if the rule is to be viewed for SMPP or SIP. This is an optional parameter and if unspecified, by default the rule is retrieved for SMPP.

networkId - means to which virtual SS7 subnetwork belongs a database routing rule (this is for Multi-tenancy support). If this parameter is skipped - networkId will be set to "0" for a database routing rule operation.

Using GUI

Procedure: View Database Routing Rule using the GUI

1. In the GUI Management Console for SMSC Gateway, click on 'DB Routing Rule' in the left panel.
2. The main panel will allow you to create/update, delete and view DB Routing Rules for SMPP or SIP.
3. In order to view a DB Routing Rule, choose the type as SMPP or SIP from the drop down box, enter the value for MSISDN and click on 'View'. The routing rule corresponding to that MSISDN will be displayed.

Retrieve a range of Database Routing Rules

Using CLI

You can retrieve a range of Database Routing Rules using the command `smsc databaserule getrange` with appropriate parameters as described below:

Name

smsc databaserule getrange

SYNOPSIS

smsc databaserule getrange <SMPP|SIP> <address>

DESCRIPTION

This command is used to retrieve a list of database rules as text data.

PARAMETERS

Standard Parameters:

<SMPP|SIP> - This parameter is used to specify if you wish to retrieve the range corresponding to SMPP or SIP.

Optional Parameters:

<address> - If a value is not specified for <address>, then the command will retrieve the first 100 database rules.

If <address> is specified, then the command will retrieve a list of 100 database rules starting from the record next to the record with address='address'.

Message processing rules (mproc rules)

The fundamentals of mproc rules you can in the chapter [\[_mproc_rules_fundamentals\]](#). Here we will describe how to manage mproc rules.

Create a mproc rule.

Using CLI

You can configure a new mproc rule by issuing the command `smsc mproc add` with appropriate parameters as described below.

Name

smsc mproc add

SYNOPSIS

```
smsc mproc add <class name> <id> desttonmask <destination type of number>
destnpimask <destination numbering plan indicator> destdigmask <regular
expression - destination number digits mask> originatingmask <SS7_MO |
SS7_HR | SMPP | SIP> originatorsccpaddressmask <originator SCCP
CallingPartyAddress mask> networkidmask <networkId value> origesmenamemask
<regualr expression - origination ESME name mask> newnetworkid
<new networkId value> newdestton<new destination type of number> newdestnpi
<new destination numbering plan indicator> adddestdigprefix <prefix>
makecopy <false | true> dropaftersri <false | true>
```

DESCRIPTION

This command is used to add a new mproc rule.

PARAMETERS

Standard Parameters.

class name - the name of class of mproc rules implementation. For the default implementation (that is described here) class name is "mproc".

id - a mandatory parameter that means a unique mproc identifier.

desttonmask - an optional parameter.

destnpimask - an optional parameter.

destdigmask - an optional parameter.

originatingmask - an optional parameter.

originatorsccpaddressmask - an optional parameter.

networkidmask - an optional parameter.

origesmenamemask - an optional parameter.

newnetworkid - an optional parameter.

newdestton - an optional parameter.

newdestnpi - an optional parameter.

adddestdigprefix - an optional parameter.

makecopy - an optional parameter.

dropaftersri - an optional parameter.

Description of parameters is in the previous chapter.

EXAMPLES

```
smsc mproc add mproc 1 networkidmask 11 newnetworkid 12
```

Using GUI

1. In the GUI Management Console for SMSC Gateway, click on 'Message Processing Rules' in the left panel.
2. The main panel will display the existing mproc rule (if any), one each in a row with corresponding actions (delete, update) for each row. Below this you will find buttons 'Create Default Message Processing Rule' and 'Create Custom Message Processing Rule'. If you have not

implemented your own customized rule, the only option for you is 'Create Default Message Processing Rule'. The 'Create Message Processing Rule' window will display all proc rule parameters that must be defined by you. For more details of these parameters please refer to the descriptions of the CLI commands for the same in the preceding section.

3. If you have implemented your own customized rules than you can use the button 'Create Custom Message Processing Rule'. For a custom mproc rule you need to configure rule Id, Class Name and Parameters (as a plain string that will be parsed by your customized rules).
4. Enter appropriate values for all the parameters and then click on the 'Create' button at the bottom of this 'Create Message Processing Rule' window. This action will create a new mproc rule with parameters as defined by you.
5. If there is an error in defining the mproc rule, then you will find the details of the error in the Management Console Log section below.

Modify a mproc rule.

Using CLI

You can modify an existent mproc rule by issuing the command `smcsc mproc modify` with appropriate parameters as described below.

Name

smsc mproc modify

SYNOPSIS

```
smsc mproc modify <id> desttonmask <destination type of number> destnpimask  
<destination numbering plan indicator> destdigmask <regular expression -  
destination number digits mask> originatingmask <SS7_MO | SS7_HR | SMPP  
| SIP> originatorsccpaddressmask <originator SCCP CallingPartyAddress mask>  
networkidmask <networkId value> origesmenamemask <regular expression  
- origination ESME name mask> newnetworkid <new networkId value>  
newdestton<new destination type of number> newdestnpi <new destination  
numbering plan indicator> adddestdigprefix <prefix> makecopy <false | true>  
dropaftersri <false | true>
```

DESCRIPTION

This command is used to modify an existent mproc rule.

PARAMETERS

Standard Parameters.

id - a mandatory parameter that means a unique mproc identifier.
desttonmask - an optional parameter.
destnpimask - an optional parameter.
destdigmask - an optional parameter.
originatingmask - an optional parameter.
originatorsccpaddressmask - an optional parameter.
networkidmask - an optional parameter.
origesmenamemask - an optional parameter.
newnetworkid - an optional parameter.
newdestton - an optional parameter.
newdestnpi - an optional parameter.
adddestdigprefix - an optional parameter.
makecopy - an optional parameter.
dropaftersri - an optional parameter.

EXAMPLES

```
smsc mproc modify 1 newnetworkid 13
```

Using GUI

1. In the GUI Management Console for SMSC Gateway, click on 'Message Processing Rules' in the left panel.
2. The main panel will display the existing mproc rule (if any), one each in a row with corresponding actions (delete, update) for each row. Below this you will find the button 'Create Message Processing Rule'.
3. You can modify an existent mproc rule by launching the 'Message Procesing Rule #... properties' window by clicking on the blue coloured 'Modify Message Processing Rule' button. The 'Message

Processing Rule #... properties' window will display all proc rule parameters that must be updated by you. For more details of these parameters please refer to the descriptions of the CLI commands for the same in the preceding section. For customized mproc rules the set of parameters is configured as a plain string.

4. Update appropriate values for all the parameters and then click on the 'Close' button. This action will modify a mproc rule with parameters as defined by you.
5. If there is an error in updating the mproc rule, then you will find the details of the error in the Management Console Log section below.

View a mproc rule details.

Using CLI

You can view the details of all configured mproc rules or a specified mproc rule by issuing the command `smc mproc show` as described below.

Name

```
smc mproc show
```

SYNOPSIS

```
smc mproc show <id>
```

DESCRIPTION

This command is used to list all configured mproc rules or a specified mproc rule. Only nondefault mproc rule parameters (conditions and actions) will be displayed in the command output.

PARAMETERS

`id` - an optional parameter. You can specify this parameter to ask details for a mproc rule with a provided Id. If you do not specify this parameter all mproc rules will be displayed.

EXAMPLES

```
smc mproc show 1  
smc mproc show
```

Using GUI

1. In the GUI Management Console for SMSC Gateway, click on 'Message Processing Rules' in the left panel.
2. The main panel will display the existing mproc rule (if any), one each in a row with corresponding actions (delete, update) for each row. Below this you will find the button 'Create Message Processing Rule'.
3. You can view the details of a mproc rule by clicking on the row corresponding to the mproc

rule. All relevant details of the mproc rule will be displayed in an expanded format.

Remove an existing mproc rule.

Using CLI

You can remove an existent mproc rule by issuing the command `smc mproc remove` with appropriate parameters as described below.

Name

```
smc mproc remove
```

SYNOPSIS

```
smc mproc remove <id>
```

DESCRIPTION

This command is used to remove an existing mproc rule.

PARAMETERS

`id` - a mandatory parameter - id of an existent mproc rule to remove.

EXAMPLES

```
smc mproc remove 1
```

Using GUI

1. In the GUI Management Console for SMSC Gateway, click on 'Message Processing Rules' in the left panel.
2. The main panel will display the existing mproc rule (if any), one each in a row with corresponding actions (delete, update) for each row. Below this you will find the button 'Create Message Processing Rule'.
3. To remove an existing mproc rule click on the delete icon marked 'x' in red, for the row corresponding to the mproc rule.

Statistics

The GUI will allow you to create campaigns of fixed duration for gathering statistics data. Campaign allows to select time period over which these statistics have been gathered (in hours, minutes and seconds). Once Campaign is defined, the statistics can be observed by clicking on the newly created campaign name or you can also navigate to Metrics (click Metrics on left panel) to get graph of statistics.

Create new Campaign

Using GUI

Procedure: Create new Campaign using GUI

1. To create a new Campaign open a Web Browser and navigate to <http://localhost:8080/jss7-management-console/>. Click on the 'Manage Campaigns' link in the left panel. The main panel will display the names of all existing campaigns and also a button to create a new campaign. The GUI will look similar to the figure below.

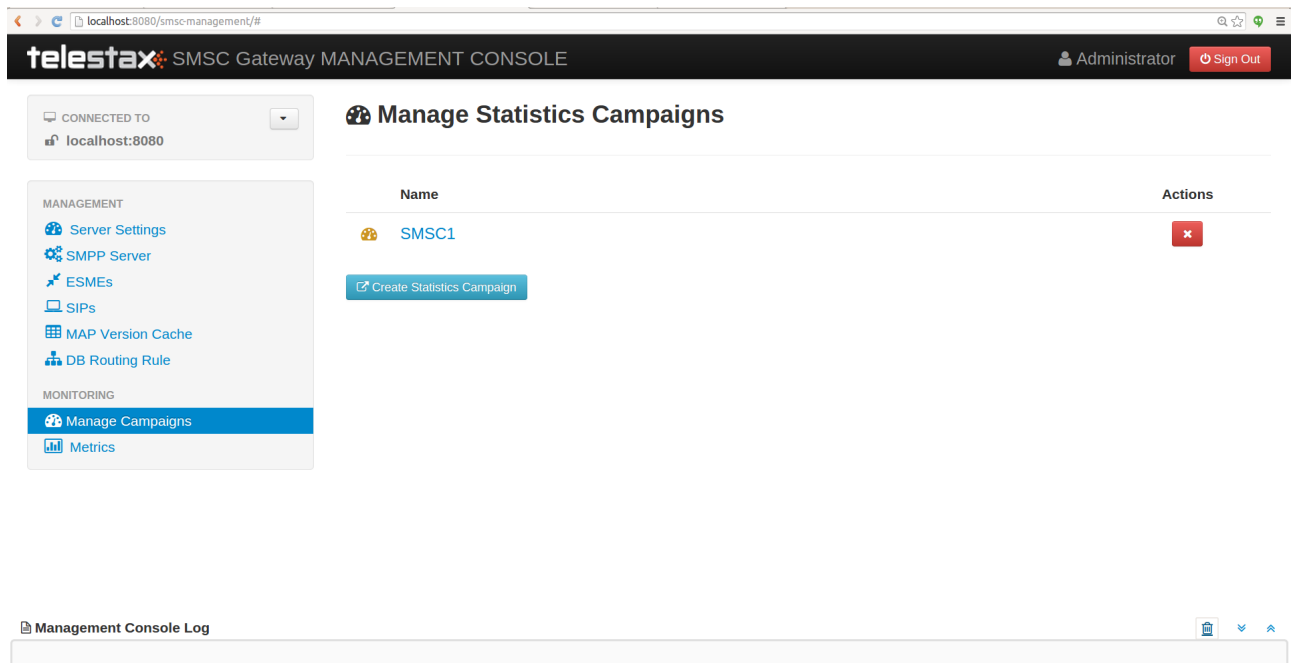


Figure 3. GUI - Campaigns

2. Click on the 'Create Statistics Campaign' button to create a new Campaign. Select the stack from the drop down 'Counter Definition Set Name' on which you want the new campaign to be defined.
3. Select the time period from the drop down 'Duration' and enter a unique 'Campaign Name'.



The drop down will also display SS7 counter definition. You can create SS7 campaigns from the SS7 management console. For SMSC, select 'SMSC GW-SMSC-Main'.

View Campaigns

Using GUI

You can view all existing campaigns in the GUI. On the main panel, click on the Campaign name. The GUI will look similar to the figure below and is divided into tabs. The first tab will display the properties of the campaign. The second tab explains all the counters in this campaign and their definition. The last tab provides the values for each of these counters. The last tab also displays the 'Start Time' and 'End Time' representing the time duration for which the sample was collected.

localhost:8080/smsc-management/#

telestax SMSC Gateway MANAGEMENT CONSOLE

Administrator Sign Out

CONNECTED TO localhost:8080

MANAGEMENT

- Server Settings
- SMPP Server
- ESMEs
- SIPs
- MAP Version Cache
- DB Routing Rule

MONITORING

- Manage Campaigns
- Metrics

Manage Statistics Campaigns

SMSC1

Details Counter Definition Counter Value

Property	Value
Name	SMSC1
CounterSetName	SMSC GW-SMSC-Main
Duration	5 Sec

Create Statistics Campaign

Management Console Log

18:13:32:409 [INFO] Campaign SMSC1 deatils retrieved.

Figure 4. GUI - Campaigns View

Restcomm SMSC doesn't persist the statistics, hence the data collected for the campaign period refreshes for every defined 'Duration'. You must refresh the page for every 'Duration' period to gather statistics data for the previous time period.

Nevertheless you can also click on the 'Metrics' link on left panel, select the Campaign and observe the statistics graph. The metrics page gathers data from the time the page was loaded till user navigates away. Hence graph will show historic data from the point the page was loaded.

Metrics will show 3 graphs for Messages coming in, Messages attempted for delivery and Messages successfully delivered.

96



Figure 5. GUI - Campaigns View