Gs Service Configuration Mode Commands

Command Modes

The Gs Service configuration mode configures the parameters used to setup and maintain a Gs interface for a connection between the SGSN and an MSC/VLR.

Exec > Global Configuration > Context Configuration > Gs Service Configuration

configure > context *context_name* **> gs-service** *service_name*

Entering the above command sequence results in the following prompt:

```
[context_name]host_name(config-gs-service)#
```

Important

The commands or keywords/variables that are available are dependent on platform type, product version, and installed license(s).

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- do show, on page 3
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associate-sccp-network

This command associates a previously defined Signaling Connection Control Part (SCCP) network instance with the Gs service. This association is required to access Visitor Location Register(s) (VLRs).

Product

SGSN

Privilege

Security Administrator, Administrator

Command Modes

Exec > Global Configuration > Context Configuration > Gs Service Configuration

configure > context *context_name* **> gs-service** *service_name*

Entering the above command sequence results in the following prompt:

```
[context_name]host_name(config-gs-service)#
```

Syntax Description

associate-sccp-network *sccp_net_id*
no associate-sccp-network

no

Removes the associated SCCP network configuration instance from this Gs service configuration.

sccp_net_id

Identifies the SCCP network configuration instance to associate with this Gs interface to enable connection with VLR(s).

sccp_network_num: Must be an integer from 1 through 12.

Usage Guidelines

Use this command to associate the SCCP network configuration instance with the Gs interface in this service.

Important A single SCCP network configuration instance can not be shared with multiple Gs services.

Important To enable a Gs service, the user needs to configure **ssn** with the **bssap+** command.

Example

Following command associates SCCP network 2 with this Gs service.

associate-sccp-network *2*

bssap+

This command defines the Base Station System Application Part Plus configuration parameters for the Gs service to enable the SGSN to access a Visitor Location Register(s) (VLRs).

Product

SGSN

Privilege

Security Administrator, Administrator

Command Modes

Exec > Global Configuration > Context Configuration > Gs Service Configuration

configure > context *context_name* **> gs-service** *service_name*

Entering the above command sequence results in the following prompt:

```
[context_name]host_name(config-gs-service)#
```

Syntax Description

bssap+ ssn *ss_num*
no bssap+ ssn *ss_num*

no

Removes the configured BSSAP+ subsystem number from this Gs service.

ssn *ss_num*

Specifies the subsystem number to configure in this Gs interface to use BSSAP+.

ss_num must be an integer from 1 through 255.

Usage Guidelines

Use this command to configure the BSSAP+ subsystem with Gs interface in this service to communicate with VLR(s).

Important A single SCCP network configuration instance can not be shared with multiple Gs services.

Important To start a Gs service, the user needs to configure the command parameter.

Example

Following command configures subsystem 101 with BSSAP+ in this Gs service.

bssap+ ssn *101*

do show

Executes all **show** commands while in Configuration mode.

Product

All

Privilege

Security Administrator, Administrator

Syntax Description

do show

Usage Guidelines

Use this command to run all Exec mode **show** commands while in Configuration mode. It is not necessary to exit the Config mode to run a **show** command.

The pipe character **|** is only available if the command is valid in the Exec mode.

Caution There are some Exec mode **show** commands which are too resource intensive to run from Config mode. These include: **do show support collection**, **do show support details**, **do show support record** and **do show support summary**. If there is a restriction on a specific **show** command, the following error message is displayed:

```
Failure: Cannot execute 'do show support' command from Config mode.
```

end

Exits the current configuration mode and returns to the Exec mode.

Product SGSN

Privilege Security Administrator, Administrator

Syntax Description **end**

Usage Guidelines Return to the Exec mode.

exit

Exits the current configuration mode and returns to the previous configuration mode.

Product SGSN

Privilege Security Administrator, Administrator

Syntax Description **exit**

Usage Guidelines Return to the previous configuration mode.

max-retransmission

This command configures the retransmission values for different procedure counters in Gs service as described in TS 29.018.

Product SGSN

Privilege Security Administrator, Administrator

Command Modes Exec > Global Configuration > Context Configuration > Gs Service Configuration

configure > context *context_name* **> gs-service** *service_name*

Entering the above command sequence results in the following prompt:

```
[context_name]host_name(config-gs-service)#
```

Syntax Description

max-retransmission { n10 | n12 | n8 | n9 } *retrans_num*
default max-retransmission { n10 | n12 | n8 | n9 }

no

Removes the configured Gs procedures from this Gs service.

{ n10 | n12 | n8 | n9 }

Specifies the various Gs service procedures that are available to be used to communicate with VLR(s).

- **n10**: Defines the maximum number of retries for implicit IMSI detach from the GPRS service. Default is 2.
- **n12**: Defines the maximum number of retries for BSSAP+ to send Reset Indication messages. Default is 2.
- **n8**: Defines the maximum number of retries for explicit IMSI detach from a GPRS service. Default is 2.
- **n9**: Defines the maximum number of retries for explicit IMSI detach from a non-GPRS service. Default is 2.

retrans_num

Specifies the number of retransmission of message for specified procedures.

retrans_num is an integer from 0 to 10.

Default: 2

Usage Guidelines

Use this command to configure the retransmission values for specific procedure counters in Gs service, based on TS 29.018.

This command can be entered for each procedure counter separately.

Example

The following command configures the retransmission value as *3* for the Gs service procedure to send BSSAP+ Reset Indication messages in this Gs service:

max-retransmission n12 3

non-pool-area

This command creates a non-pool area for a set of subscriber location area code (LAC) values that can be used with a specific VLR for the Gs service.

Product

SGSN

Privilege

Security Administrator, Administrator

Command Modes

Exec > Global Configuration > Context Configuration > Gs Service Configuration

configure > **context** *context_name* > **gs-service** *service_name*

Entering the above command sequence results in the following prompt:

```
[context_name]host_name(config-gs-service)#
```

Syntax Description

non-pool-area *non_pool_name* **{ use-vlr** *vlr_name* **lac** *lac_num* **} +**
no non-pool-area *non_pool_name* **[lac** *lac_num*

no

Removes the configured non-pool area from this Gs service.

non_pool_name

Specifies the name of the non-pool area to configure with this command.

non_pool_name must be an alpha and/or numeric string of 1 to 63 characters.

use-vlr *vlr_name*

Specifies the name of the VLR to be associated with this non-pool area.

vlr_name is the name of VLR and must be an alpha and/or numeric string of 1 to 63 characters.

lac *lac_num*

Specifies the subscribers' location area code to be attached with this non-pool area and specific VLR. This LAC of subscriber is obtained from the radio area indicator (RAI).

Including this keyword with the **no** form of the command enables the operator to remove a specific LAC from the non-pool area configuration.

lac_num is the LAC value and must be an integer value from 1 through 65535.

+

More than one *lac_num*, separated by a space, can be entered within a single command.

Usage Guidelines

This command can be repeated as necessary to define a total of 32 configured LACs for the combined **non-pool-area** and **pool-area** configurations per Gs service.

Example

Following command configure a non-pool area *starpool1* to use VLR named *starvlr1* for LAC *101* in a Gs service.

non-pool-area *starpool1* **use-vlr** *starvlr1* **lac** *101*

pool-area

This command creates a pool area configuration instance. This command also enters the Pool Area configuration mode to define the set of VLRs to use for a pool area for a set of subscriber location area code (LAC) values in the Gs service.

Product SGSN

Privilege Security Administrator, Administrator

Command Modes Exec > Global Configuration > Context Configuration > Gs Service Configuration

configure > context *context_name* **> gs-service** *service_name*

Entering the above command sequence results in the following prompt:

`[context_name]host_name(config-gs-service)#`

Syntax Description

pool-area *pool_name* **[-noconfirm]**
no pool-area *non_pool_name*

no

Removes the configured pool area from this Gs service.

pool_name

Specifies the name of the pool area to configure with this command for VLR pooling and association of a LAC.

pool_name: Must be an alpha and/or numeric string of 1 to 63 characters.

-noconfirm

Indicates that the command is to execute without any additional prompt and confirmation from the user.

Usage Guidelines Use this command to create/enter the pool area configuration mode. This mode is used configure the set of VLRs to be used for a set of subscriber LAC.

This command can be used multiple times, subject to a limit of 128 LAC values (the total number of **non-pool-area** and **pool-area** configurations) per Gs service.

Example

The following command configures a pool area named *starpool1* in a Gs service without any confirmation prompt.

pool-area *starpool1* **-noconfirm**

sgsn-number

Define the SGSN's E164 number to associate an SGSN with this Gs Service.

Product SGSN

Privilege Security Administrator, Administrator

Command Modes Exec > Global Configuration > Context Configuration > Gs Service Configuration

configure > **context** *context_name* > **gs-service** *service_name*

Entering the above command sequence results in the following prompt:

```
[context_name]host_name(config-gs-service)#
```

Syntax Description

sgsn-number *E.164_number*

E.164_number

Defines the SGSN's 'telephone' number, the ISDN number for per ITU-T E.164 numbering plan. The number must be a numerical string of 1 to 15 digits.

Usage Guidelines

For releases 8.1 or higher, use this command to define the SGSN's E.164 ISDN number. This value should match the **sgsn-number** defined for SGSN Service or GPRS Service.

Important

Note: the Gs Service will not start unless the SGSN's E.164 number is configured.

Example

sgsn-number *12345678901234*

timeout

This command configures various timers defining the wait before retransmitting a specific message for Gs service procedures.

Product

SGSN

Privilege

Security Administrator, Administrator

Command Modes

Exec > Global Configuration > Context Configuration > Gs Service Configuration

configure > **context** *context_name* > **gs-service** *service_name*

Entering the above command sequence results in the following prompt:

```
[context_name]host_name(config-gs-service)#
```

Syntax Description

timeout { t6-1-timer *t6_1_dur* **| t8-timer** *t8_dur* **| t9-timer** *t9_dur* **| t10-timer** *t10_dur* **| t12-1-timer minute** *t12_1_dur* **| t12-2-timer** *t12_2_dur***}**
[default] timeout { t6-1-timer | t8-timer | t9-timer | t10-timer | t12-1-timer | t12-2-timer }

default

Sets the timer value to wait in seconds/minutes to default values. Default values for timers are:

- **t6-1-timer**: 10 seconds
- **t8-timer**: 4 seconds

- **t9-timer**: 4 seconds
- **t10-timer**: 4
- **t12-1-timer**: 54 mins (+ 8 seconds)
- **t12-2-timer**: 4 seconds

t6-1-timer *t6_1_dur*

Default: 10

Specifies the retransmission timer value to guard the location update.

t6_1_dur is the waiting duration in seconds before retransmitting the specific message and must be an integer from 10 through 90.

t8-timer *t8_dur*

Default: 4

Specifies the retransmission timer value to guard the explicit IMSI detach from the GPRS service procedure.

t8_dur is the waiting duration in seconds before retransmitting the specific message and must be an integer from 1 through 30.

t9-timer *t9_dur*

Default: 4

Specifies the retransmission timer value to guard the explicit IMSI detach from the non-GPRS service procedure.

t9_dur is the waiting duration in seconds before retransmitting the specific message and must be an integer from 1 through 30.

t10-timer *t10_dur*

Default: 4

Specifies the retransmission timer value to guard the implicit IMSI detach from the GPRS service procedure.

t10_dur is the waiting duration in seconds before retransmitting the specific message and must be an integer from 1 through 30.

t12-1-timer minute *t12_1_dur*

Default: 54 minutes (plus 8 seconds for transmission delay)

Specifies the retransmission timer value to control the resetting of SGSN-Reset variable procedure.

t12_1_dur is the waiting duration in minutes before retransmitting reset message for the SGSN Reset variable and must be an integer from 0 through 384.

t12-2-timer *t12_2_dur*

Default: 4

Specifies the retransmission timer value to guard the SGSN reset procedure.

t12_2_dur is the waiting duration in seconds before retransmitting the specific message and must be an integer from 1 through 120.

Usage Guidelines

Use this command to configure the time, for different procedure timers, to wait before retransmitting a procedure message.

This command can be repeated for each timer to configure multiple timers.

Example

Following command sets the timeout duration of 4 seconds for t8 timer to wait before retransmitting the procedure message to explicitly do the IMSI detach from GPRS service:

```
default timeout t8-timer
```

vlr

This command defines a VLR configuration for use with this Gs service.

Product

SGSN

Privilege

Security Administrator, Administrator

Command Modes

Exec > Global Configuration > Context Configuration > Gs Service Configuration

configure > **context** *context_name* > **gs-service** *service_name*

Entering the above command sequence results in the following prompt:

```
[context_name]host_name(config-gs-service)#
```

Syntax Description

```
vlr vlr_name isdn-number E164_num [exclude-opc-in-sccp] {point-code pt_code
| bssap+ ssn ssn  [exclude-opc-in-sccp]  [point-code pt_code]
no vlr vlr_name
```

no

Removes the configured VLR from the Gs service.

vlr_name

Specifies the name of the VLR to configure in this Gs mode with ISDN number.

vlr_name must be an alpha and/or numeric string of 1 to 63 characters.

isdn-number *E164_num*

Specifies the VLR number to configure with this command.

E164_num: The ISDN number for the target VLR. Value must be defined according to the E.164 numbering plan and must be a numeric string of 1 to 15 digits.

bssap+ ssn *ssn*

Specifies the subsystem number to configure with this VLR to use BSSAP+.

ssn: Must be an integer from 1 through 255. Default value is 252.

point-code *pt_code*

Specifies SS7 address of VLR in point code value to this configured VLR name.

pt_code: Must be in SS7 point code dotted-decimal ###.###.### format or decimal ######## format.

exclude-opc-in-sccp

This keyword is provides the operator with an option to either include or exclude OPC in the SGSN generated SCCP Calling Party Address for "route-on-gt" on the Gs Service.

By default this keyword is not enabled and the OPC is included in the SCCP calling party address for "route-on-gt".

Usage Guidelines

Use this command to define VLR configuration instances to be associated with the Gs service.

A maximum of 32 VLRs can be configured per Gs service.

Example

Following command configures the VLR named *starvlr1* with an ISDN number *12344567*, a subsystem number of *252*, and a point code value of *123.345.567*:

```
vlr starvlr1 isdn-number 12344567 point-code 123.345.567
```

The following command is used to exclude OPC in the SCCP Calling Party Address for "route-on-gt":

```
vlr vlr1 isdn-number 12345 bssap+ ssn 121 exclude-opc-in-sccp
```

```
vlr vlr2 isdn-number 92349 exclude-opc-in-sccp
```