OsmoGbProxy VTY Reference

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Contents

List of Tables

Chapter 1

VTY reference

The Virtual Tele Type (VTY) has the concept of nodes and commands. This chapter lists all nodes and the commands that are available within the node. Each command can consist out of several words followed by a variable number of parameters. There are common patterns for the parameters, these include IPv4 addresses, number ranges, a word, a line of text and choice. The following will explain the commonly used patterns.

Pattern	Example	Explanation
A.B.C.D	127.0.0.1	A IPv4 address
TEXT	example01	A single string without any spaces, tabs
.TEXT	Some information	A line of text
(OptionA|OptionB|OptionC)	OptionA	A choice between a list of available options
<0-10>	5	A number from a range

Table 1.1: VTY Parameter Patterns

The application is configured through the VTY. For configuring a system one needs to enter the **enable** node and then enter the **configure terminal** command. Then the configuration can be made according to the available commands. After the system has been configured one can use the **write** command to write the new configuration to the configuration file. The new file will be used after the application has been restarted.

The following table lists the TCP port numbers of the VTY for the various Osmocom GSM related programs as used on sysmocom products:

Port Number	Software
4240	osmo-pcu
4241	osmo-bts
4242	osmo-nitb, osmo-bsc
4243	osmo-bsc_mgcp
4244	osmo-bsc_nat
4245	osmo-sgsn
4246	osmo-gbproxy

Table 1.2: VTY port numbers

1.1   Common Commands

These commands are available on all VTY nodes. They are listed here only once, to unclutter the VTY reference.

1.1.1 end

Command

```
end
```

Parameters

end

    End current mode and change to enable mode.

1.1.2 exit

Command

```
exit
```

Parameters

exit

    Exit current mode and down to previous mode

1.1.3 help

Command

```
help
```

Parameters

help

    Description of the interactive help system

1.1.4 list [with-flags]

Command

```
list [with-flags]
```

Parameters

list

    Print command list

[with-flags]

    Also print the VTY attribute flags

1.1.5 show running-config

Command

```
show running-config
```

Parameters

show
    Show running system information

running-config
    running configuration

1.1.6 show vty-attributes

Command

```
show vty-attributes
```

Parameters

show
    Show running system information

vty-attributes
    List of VTY attributes

1.1.7 show vty-attributes (application|library|global)

Command

```
show vty-attributes (application|library|global)
```

Parameters

show
    Show running system information

vty-attributes
    List of VTY attributes

application
    Application specific attributes only

library
    Library specific attributes only

global
    Global attributes only

1.1.8 write

Command

```
write
```

Parameters

write

Write running configuration to memory, network, or terminal

1.1.9 write file [PATH]

Command

```
write file [PATH]
```

Parameters

write

Write running configuration to memory, network, or terminal

file

Write to configuration file

[PATH]

Set file path to store the config, or replace if already exists

1.1.10 write memory

Command

```
write memory
```

Parameters

write

Write running configuration to memory, network, or terminal

memory

Write configuration to the file (same as write file)

1.1.11 write terminal

Command

```
write terminal
```

Parameters

write

Write running configuration to memory, network, or terminal

terminal

Write to terminal

1.2 view

The view node is the default node when connecting to the VTY interface. This node does not require any additional permission and allows to introspect the application.

1.2.1 enable [expert-mode]

Command

```
enable [expert-mode]
```

Parameters

enable

Turn on privileged mode command

[expert-mode]

Enable the expert mode (show hidden commands)

1.2.2 logging color (0|1)

Command

```
logging color (0|1)
```

Parameters

logging

Configure logging

color

Configure color-printing for log messages

0

Don't use color for printing messages

1

Use color for printing messages

1.2.3 logging disable

Command

```
logging disable
```

Parameters

logging

Configure logging

disable

Disables logging to this vty

1.2.4 logging enable

This command is required to make logging commands available on the telnet VTY.

Command

```
logging enable
```

Parameters

logging

   Configure logging

enable

   Enables logging to this vty

1.2.5 logging filter all (0|1)

Disable/enable general log output on a given target. Typically, 'logging filter all 1' allows to see the usual log output on a given target. Setting to '0' can be useful when logging to the telnet VTY console: mute all log output to allow typing VTY commands on the telnet prompt without interference from log output; 'logging filter all 1' then re-enables logging in the same log output configuration as before. Some applications provide more specific filters, e.g. to log a given IMSI only. To employ such filters, set 'logging filter all 0' to disable general logging, and then enable a more specific filter instead.

Command

```
logging filter all (0|1)
```

Parameters

logging

   Configure logging

filter

   Filter log messages

all

   Do you want to log all messages?

0

   Only print messages matched by other filters

1

   Bypass filter and print all messages

1.2.6 logging filter bvc bvci <0-65535>

Command

```
logging filter bvc bvci <0-65535>
```

Parameters

logging

Configure logging

filter

Filter log messages

bvc

Filter based on BSSGP VC

bvci

Identify BVC by BVCI

<0-65535>

Numeric identifier

1.2.7 logging filter nse nsei <0-65535>

Command

```
logging filter nse nsei <0-65535>
```

Parameters

logging

Configure logging

filter

Filter log messages

nse

Filter based on NS Entity

nsei

Identify NSE by NSEI

<0-65535>

Numeric identifier

1.2.8 logging filter nsvc nsvci <0-65535>

Command

```
logging filter nsvc nsvci <0-65535>
```

Parameters

logging

Configure logging

filter

Filter log messages

nsvc

Filter based on NS Virtual Connection

nsvci

Identify NS-VC by NSVCI

<0-65535>

Numeric identifier

1.2.9 logging level (gprs|obj|lglobal|llapd|linp|lmux|lmi|lmib|lsms|lctrl|lgtp|lstats|...

Command

```
logging level (gprs|obj|lglobal|llapd|linp|lmux|lmi|lmib|lsms|lctrl|lgtp|lstats|lgsup| ←
    loap|lss7|lsccp|lsua|lm3ua|lmgcp|ljibuf|lrspro|lns|lbssgp|lnsdata|lnssignal|liuup| ←
    lpfcp|lcsn1|lio) (debug|info|notice|error|fatal)
```

Parameters

logging

Configure logging

level

Set the log level for a specified category

gprs

GPRS Packet Service

obj

GbProxy object allocation/release

lglobal

Library-internal global log family

llapd

LAPD in libosmogsm

linp

A-bis Intput Subsystem

lmux

A-bis B-Subchannel TRAU Frame Multiplex

lmi

A-bis Input Driver for Signalling

lmib

A-bis Input Driver for B-Channels (voice)

lsms

Layer3 Short Message Service (SMS)

lctrl

Control Interface

lgtp

GPRS GTP library

lstats

Statistics messages and logging

lgsup

Generic Subscriber Update Protocol

loap

Osmocom Authentication Protocol

lss7

libosmo-sigtran Signalling System 7

lsccp

libosmo-sigtran SCCP Implementation

lsua

libosmo-sigtran SCCP User Adaptation

lm3ua

libosmo-sigtran MTP3 User Adaptation

lmgcp

libosmo-mgcp Media Gateway Control Protocol

ljibuf

libosmo-netif Jitter Buffer

lrspro

Remote SIM protocol

lns

GPRS NS layer

lbssgp

GPRS BSSGP layer

lnsdata

GPRS NS layer data PDU

lnssignal

GPRS NS layer signal PDU

liuup

Iu UP layer

lpfcp

libosmo-pfcp Packet Forwarding Control Protocol

lcsn1

libosmo-csn1 Concrete Syntax Notation 1 codec

lio

libosmocore IO Subsystem

debug

    Log debug messages and higher levels

info

    Log informational messages and higher levels

notice

    Log noticeable messages and higher levels

error

    Log error messages and higher levels

fatal

    Log only fatal messages

1.2.10 logging level force-all (debug|info|notice|error|fatal)

Command

```
logging level force-all (debug|info|notice|error|fatal)
```

Parameters

logging

    Configure logging

level

    Set the log level for a specified category

force-all

    Globally force all logging categories to a specific level. This is released by the 'no logging level force-all' command. Note: any 'logging level <category> <level>' commands will have no visible effect after this, until the forced level is released.

debug

    Log debug messages and higher levels

info

    Log informational messages and higher levels

notice

    Log noticeable messages and higher levels

error

    Log error messages and higher levels

fatal

    Log only fatal messages

1.2.11   logging level set-all (debug|info|notice|error|fatal)

Command

```
logging level set-all (debug|info|notice|error|fatal)
```

Parameters

logging

Configure logging

level

Set the log level for a specified category

set-all

Once-off set all categories to the given log level. There is no single command to take back these changes -- each category
is set to the given level, period.

debug

Log debug messages and higher levels

info

Log informational messages and higher levels

notice

Log noticeable messages and higher levels

error

Log error messages and higher levels

fatal

Log only fatal messages

1.2.12   logging print category (0|1)

Command

```
logging print category (0|1)
```

Parameters

logging

Configure logging

print

Log output settings

category

Configure log message

0

Don't prefix each log message

1

Prefix each log message with category/subsystem name

1.2.13 logging print category-hex (0|1)

Command

```
logging print category-hex (0|1)
```

Parameters

logging
>   Configure logging

print
>   Log output settings

category-hex
>   Configure log message

0
>   Don't prefix each log message

1
>   Prefix each log message with category/subsystem nr in hex ('<000b>')

1.2.14 logging print extended-timestamp (0|1)

Command

```
logging print extended-timestamp (0|1)
```

Parameters

logging
>   Configure logging

print
>   Log output settings

extended-timestamp
>   Configure log message timestamping

0
>   Don't prefix each log message

1
>   Prefix each log message with current timestamp with YYYYMMDDhhmmssnnn

1.2.15 logging print file (0|1|basename) [last]

Command

```
logging print file (0|1|basename) [last]
```

Parameters

logging
    Configure logging

print
    Log output settings

file
    Configure log message

0
    Don't prefix each log message

1
    Prefix each log message with the source file and line

basename
    Prefix each log message with the source file's basename (strip leading paths) and line

[last]
    Log source file info at the end of a log line. If omitted, log source file info just before the log text.

1.2.16 logging print level (0|1)

Command

```
logging print level (0|1)
```

Parameters

logging
    Configure logging

print
    Log output settings

level
    Configure log message

0
    Don't prefix each log message

1
    Prefix each log message with the log level name

1.2.17   logging print thread-id (0|1)

Command

```
logging print thread-id (0|1)
```

Parameters

logging

>   Configure logging

print

>   Log output settings

thread-id

>   Configure log message logging Thread ID

0

>   Don't prefix each log message

1

>   Prefix each log message with current Thread ID

1.2.18   logging set-log-mask MASK

Command

```
logging set-log-mask MASK
```

Parameters

logging

>   Configure logging

set-log-mask

>   Set the logmask of this logging target

MASK

>   List of logging categories to log, e.g. 'abc:mno:xyz'. Available log categories depend on the specific application, refer to
>   the 'logging level' command. Optionally add individual log levels like 'abc,1:mno,3:xyz,5', where the level numbers are
>   LOGL_DEBUG=1 LOGL_INFO=3 LOGL_NOTICE=5 LOGL_ERROR=7 LOGL_FATAL=8

1.2.19   logging timestamp (0|1)

Command

```
logging timestamp (0|1)
```

Parameters

logging

Configure logging

timestamp

Configure log message timestamping

0

Don't prefix each log message

1

Prefix each log message with current timestamp

1.2.20 logp (gprs|obj||global|llapd|linp|lmux|lmi|lmib|lsms|lctrl|lgtp|lstats|lgsup|loa...

Command

```
logp (gprs|obj|lglobal|llapd|linp|lmux|lmi|lmib|lsms|lctrl|lgtp|lstats|lgsup|loap|lss7| ←
    lsccp|lsua|lm3ua|lmgcp|ljibuf|lrspro|lns|lbssgp|lnsdata|lnssignal|liuup|lpfcp|lcsn1 ←
    |lio) (debug|info|notice|error|fatal) .LOGMESSAGE
```

Parameters

logp

Print a message on all log outputs; useful for placing markers in test logs

gprs

GPRS Packet Service

obj

GbProxy object allocation/release

lglobal

Library-internal global log family

llapd

LAPD in libosmogsm

linp

A-bis Intput Subsystem

lmux

A-bis B-Subchannel TRAU Frame Multiplex

lmi

A-bis Input Driver for Signalling

lmib

A-bis Input Driver for B-Channels (voice)

lsms

Layer3 Short Message Service (SMS)

lctrl

Control Interface

lgtp

GPRS GTP library

lstats

Statistics messages and logging

lgsup

Generic Subscriber Update Protocol

loap

Osmocom Authentication Protocol

lss7

libosmo-sigtran Signalling System 7

lsccp

libosmo-sigtran SCCP Implementation

lsua

libosmo-sigtran SCCP User Adaptation

lm3ua

libosmo-sigtran MTP3 User Adaptation

lmgcp

libosmo-mgcp Media Gateway Control Protocol

ljibuf

libosmo-netif Jitter Buffer

lrspro

Remote SIM protocol

lns

GPRS NS layer

lbssgp

GPRS BSSGP layer

lnsdata

GPRS NS layer data PDU

lnssignal

GPRS NS layer signal PDU

liuup

Iu UP layer

lpfcp

libosmo-pfcp Packet Forwarding Control Protocol

lcsn1

libosmo-csn1 Concrete Syntax Notation 1 codec

lio

libosmocore IO Subsystem

debug

> Log debug messages and higher levels

info

> Log informational messages and higher levels

notice

> Log noticeable messages and higher levels

error

> Log error messages and higher levels

fatal

> Log only fatal messages

.LOGMESSAGE

> Arbitrary message to log on given category and log level

1.2.21 no logging level force-all

Command

```
no logging level force-all
```

Parameters

no

> Negate a command or set its defaults

logging

> Configure logging

level

> Set the log level for a specified category

force-all

> Release any globally forced log level set with 'logging level force-all <level>'

1.2.22 show alarms

Command

```
show alarms
```

Parameters

show

> Show running system information

alarms

> Show current logging configuration

1.2.23 **show asciidoc counters**

Command

```
show asciidoc counters
```

Parameters

show

Show running system information

asciidoc

Asciidoc generation

counters

Generate table of all registered counters

1.2.24 **show cpu-sched threads**

Command

```
show cpu-sched threads
```

Parameters

show

Show running system information

cpu-sched

Show Sched section information

threads

Show information about running threads)

1.2.25 **show fsm NAME**

Command

```
show fsm NAME
```

Parameters

show

Show running system information

fsm

Show information about finite state machines

NAME

Display information about a single named finite state machine

1.2.26 show fsm all

Command

```
show fsm all
```

Parameters

show

Show running system information

fsm

Show information about finite state machines

all

Display a list of all registered finite state machines

1.2.27 show fsm-instances NAME

Command

```
show fsm-instances NAME
```

Parameters

show

Show running system information

fsm-instances

Show information about finite state machine instances

NAME

Display a list of all FSM instances of the named finite state machine

1.2.28 show fsm-instances all

Command

```
show fsm-instances all
```

Parameters

show

Show running system information

fsm-instances

Show information about finite state machine instances

all

Display a list of all FSM instances of all finite state machine

1.2.29 show fsm-state-graph NAME

Command

```
show fsm-state-graph NAME
```

Parameters

show

Show running system information

fsm-state-graph

Generate a state transition graph (using DOT language)

NAME

FSM name

1.2.30 show gbproxy bvc (bss|sgsn) [stats]

Command

```
show gbproxy bvc (bss|sgsn) [stats]
```

Parameters

show

Show running system information

gbproxy

Display information about the Gb proxy

bvc

Show BSSGP Virtual Connections

bss

Display BSS-side BVCs

sgsn

Display SGSN-side BVCs

[stats]

Show statistics

1.2.31 show gbproxy bvc (bss|sgsn) nsei <0-65535> [stats]

Command

```
show gbproxy bvc (bss|sgsn) nsei <0-65535> [stats]
```

Parameters

show

    Show running system information

gbproxy

    Display information about the Gb proxy

bvc

    Show BSSGP Virtual Connections

bss

    Display BSS-side BVCs

sgsn

    Display SGSN-side BVCs

nsei

    Limit display to cells from an NSE

<0-65535>

    NSEI to use

[stats]

    Show statistics

1.2.32 show gbproxy cell [stats]

Command

```
show gbproxy cell [stats]
```

Parameters

show

    Show running system information

gbproxy

    Display information about the Gb proxy

cell

    Show GPRS Cell Information

[stats]

    Show statistics

1.2.33 show gbproxy cell nsei <0-65535> [stats]

Command

```
show gbproxy cell nsei <0-65535> [stats]
```

Parameters

show

    Show running system information

gbproxy

    Display information about the Gb proxy

cell

    Show GPRS Cell Information

nsei

    Limit display to cells from an NSE

<0-65535>

    NSEI to use

[stats]

    Show statistics

1.2.34 show gbproxy imsi-cache

Command

```
show gbproxy imsi-cache
```

Parameters

show

    Show running system information

gbproxy

    Display information about the Gb proxy

imsi-cache

    Show IMSI cache entries

1.2.35 show gbproxy tlli-cache

Command

```
show gbproxy tlli-cache
```

Parameters

show

    Show running system information

gbproxy

    Display information about the Gb proxy

tlli-cache

    Show TLLI cache entries

1.2.36 show history

Command

```
show history
```

Parameters

show

    Show running system information

history

    Display the session command history

1.2.37 show logging vty

Command

```
show logging vty
```

Parameters

show

    Show running system information

logging

    Show current logging configuration

vty

    Show current logging configuration for this vty

1.2.38 show nri all

Command

```
show nri all
```

Parameters

show

    Show running system information

nri

    Mapping of Network Resource Indicators to this SGSN, for SGSN pooling

all

    Show all SGSNs

1.2.39 show nri nsei <0-65535>

Command

```
show nri nsei <0-65535>
```

Parameters

show

Show running system information

nri

Mapping of Network Resource Indicators to this SGSN, for SGSN pooling

nsei

Identify SGSN by NSEI

<0-65535>

NSEI of the SGSN

1.2.40 show ns (nsei|nsvc) <0-65535> [stats]

Command

```
show ns (nsei|nsvc) <0-65535> [stats]
```

Parameters

show

Show running system information

ns

Display information about the NS protocol

nsei

Select one NSE by its NSE Identifier

nsvc

Select one NSE by its NS-VC Identifier

<0-65535>

The Identifier of selected type

[stats]

Include Statistics

1.2.41 **show ns binds [stats]**

Command

```
show ns binds [stats]
```

Parameters

show

> Show running system information

ns

> Display information about the NS protocol

binds

> Display information about the NS protocol binds

[stats]

> Include statistic

1.2.42 **show ns entities [stats]**

Command

```
show ns entities [stats]
```

Parameters

show

> Show running system information

ns

> Display information about the NS protocol

entities

> Display information about the NS protocol entities (NSEs)

[stats]

> Include statistics

1.2.43 **show ns persistent**

Command

```
show ns persistent
```

Parameters

show

> Show running system information

ns

> Display information about the NS protocol

persistent

> Show only persistent NS

1.2.44   show online-help

Command

```
show online-help
```

Parameters

show
    Show running system information

online-help
    Online help

1.2.45   show pid

Command

```
show pid
```

Parameters

show
    Show running system information

pid
    Displays the process ID

1.2.46   show rate-counters [skip-zero]

Command

```
show rate-counters [skip-zero]
```

Parameters

show
    Show running system information

rate-counters
    Show all rate counters

[skip-zero]
    Skip items with total count zero

1.2.47 show stats [skip-zero]

Command

```
show stats [skip-zero]
```

Parameters

show

Show running system information

stats

Show statistical values

[skip-zero]

Skip items with total count zero

1.2.48 show stats level (global|peer|subscriber) [skip-zero]

Command

```
show stats level (global|peer|subscriber) [skip-zero]
```

Parameters

show

Show running system information

stats

Show statistical values

level

Set the maximum group level

global

Show global groups only

peer

Show global and network peer related groups

subscriber

Show global, peer, and subscriber groups

[skip-zero]

Skip items with total count zero

1.2.49 show talloc-context (application|global|all) (full|brief|DEPTH)

Command

```
show talloc-context (application|global|all) (full|brief|DEPTH)
```

Parameters

show

Show running system information

talloc-context

Show talloc memory hierarchy

application

Application's context

global

Global context (OTC_GLOBAL)

all

All contexts, if NULL-context tracking is enabled

full

Display a full talloc memory hierarchy

brief

Display a brief talloc memory hierarchy

DEPTH

Specify required maximal depth value

1.2.50 show talloc-context (application|global|all) (full|brief|DEPTH) filter REGEXP

Command

```
show talloc-context (application|global|all) (full|brief|DEPTH) filter REGEXP
```

Parameters

show

Show running system information

talloc-context

Show talloc memory hierarchy

application

Application's context

global

Global context (OTC_GLOBAL)

all

All contexts, if NULL-context tracking is enabled

full

Display a full talloc memory hierarchy

brief

Display a brief talloc memory hierarchy

DEPTH

Specify required maximal depth value

filter

Filter chunks using regular expression

REGEXP

Regular expression

1.2.51 show talloc-context (application|global|all) (full|brief|DEPTH) tree ADDRESS

Command

```
show talloc-context (application|global|all) (full|brief|DEPTH) tree ADDRESS
```

Parameters

show

Show running system information

talloc-context

Show talloc memory hierarchy

application

Application's context

global

Global context (OTC_GLOBAL)

all

All contexts, if NULL-context tracking is enabled

full

Display a full talloc memory hierarchy

brief

Display a brief talloc memory hierarchy

DEPTH

Specify required maximal depth value

tree

Display only a specific memory chunk

ADDRESS

Chunk address (e.g. 0xdeadbeef)

1.2.52 show uptime

Command

```
show uptime
```

Parameters

show

Show running system information

uptime

Displays how long the program has been running

1.2.53 show version

Command

```
show version
```

Parameters

show

Show running system information

version

Displays program version

1.2.54 terminal length <0-512>

Command

```
terminal length <0-512>
```

Parameters

terminal

Set terminal line parameters

length

Set number of lines on a screen

<0-512>

Number of lines on screen (0 for no pausing)

1.2.55 terminal no length

Command

```
terminal no length
```

Parameters

terminal
 Set terminal line parameters

no
 Negate a command or set its defaults

length
 Set number of lines on a screen

1.2.56 who

Command

```
who
```

Parameters

who
 Display who is on vty

1.3 enable

The enable node is a privileged node, allowing to make changes to the configuration and to access further commands like 'configure'. All commands seen on the view node are also available here.

1.3.1 configure [terminal]

Command

```
configure [terminal]
```

Parameters

configure
 Configuration from vty interface

[terminal]
 Configuration terminal

1.3.2   copy running-config startup-config

Command

```
copy running-config startup-config
```

Parameters

copy
>   Copy configuration

running-config
>   Copy running config to...

startup-config
>   Copy running config to startup config (same as write file)

1.3.3   delete-gbproxy-peer <0-65534> (only-bvc|only-nsvc|all) [dry-run]

Command

```
delete-gbproxy-peer <0-65534> (only-bvc|only-nsvc|all) [dry-run]
```

Parameters

delete-gbproxy-peer
>   Delete a GBProxy bvc by NSEI and optionally BVCI

<0-65534>
>   NSEI number

only-bvc
>   Only delete BSSGP connections (BVC)

only-nsvc
>   Only delete dynamic NS connections (NS-VC)

all
>   Delete BVC and dynamic NS connections

[dry-run]
>   Show what would be deleted instead of actually deleting

1.3.4   delete-gbproxy-peer <0-65534> bvci <2-65534>

Command

```
delete-gbproxy-peer <0-65534> bvci <2-65534>
```

Parameters

delete-gbproxy-peer

> Delete a GBProxy bvc by NSEI and optionally BVCI

<0-65534>

> NSEI number

bvci

> Only delete bvc with a matching BVCI

<2-65534>

> BVCI number

1.3.5 disable

Command

```
disable
```

Parameters

disable

> Turn off privileged mode command

1.3.6 logging color (0|1)

Command

```
logging color (0|1)
```

Parameters

logging

> Configure logging

color

> Configure color-printing for log messages

0

> Don't use color for printing messages

1

> Use color for printing messages

1.3.7 logging disable

Command

```
logging disable
```

Parameters

logging

> Configure logging

disable

> Disables logging to this vty

1.3.8 logging enable

This command is required to make logging commands available on the telnet VTY.

Command

```
logging enable
```

Parameters

logging

    Configure logging

enable

    Enables logging to this vty

1.3.9 logging filter all (0|1)

Disable/enable general log output on a given target. Typically, 'logging filter all 1' allows to see the usual log output on a given target. Setting to '0' can be useful when logging to the telnet VTY console: mute all log output to allow typing VTY commands on the telnet prompt without interference from log output; 'logging filter all 1' then re-enables logging in the same log output configuration as before. Some applications provide more specific filters, e.g. to log a given IMSI only. To employ such filters, set 'logging filter all 0' to disable general logging, and then enable a more specific filter instead.

Command

```
logging filter all (0|1)
```

Parameters

logging

    Configure logging

filter

    Filter log messages

all

    Do you want to log all messages?

0

    Only print messages matched by other filters

1

    Bypass filter and print all messages

1.3.10 logging filter bvc bvci <0-65535>

Command

```
logging filter bvc bvci <0-65535>
```

Parameters

logging

  Configure logging

filter

  Filter log messages

bvc

  Filter based on BSSGP VC

bvci

  Identify BVC by BVCI

<0-65535>

  Numeric identifier

1.3.11 logging filter nse nsei <0-65535>

Command

```
logging filter nse nsei <0-65535>
```

Parameters

logging

  Configure logging

filter

  Filter log messages

nse

  Filter based on NS Entity

nsei

  Identify NSE by NSEI

<0-65535>

  Numeric identifier

1.3.12 logging filter nsvc nsvci <0-65535>

Command

```
logging filter nsvc nsvci <0-65535>
```

Parameters

logging

  Configure logging

filter

  Filter log messages

nsvc

Filter based on NS Virtual Connection

nsvci

Identify NS-VC by NSVCI

<0-65535>

Numeric identifier

1.3.13 logging level (gprs|obj|lglobal|llapd|linp|lmux|lmi|lmib|lsms|lctrl|lgtp|lstats|...

Command

```
logging level (gprs|obj|lglobal|llapd|linp|lmux|lmi|lmib|lsms|lctrl|lgtp|lstats|lgsup| ←
    loap|lss7|lsccp|lsua|lm3ua|lmgcp|ljibuf|lrspro|lns|lbssgp|lnsdata|lnssignal|liuup| ←
    lpfcp|lcsn1|lio) (debug|info|notice|error|fatal)
```

Parameters

logging

Configure logging

level

Set the log level for a specified category

gprs

GPRS Packet Service

obj

GbProxy object allocation/release

lglobal

Library-internal global log family

llapd

LAPD in libosmogsm

linp

A-bis Intput Subsystem

lmux

A-bis B-Subchannel TRAU Frame Multiplex

lmi

A-bis Input Driver for Signalling

lmib

A-bis Input Driver for B-Channels (voice)

lsms

Layer3 Short Message Service (SMS)

lctrl

Control Interface

lgtp

GPRS GTP library

lstats

Statistics messages and logging

lgsup

Generic Subscriber Update Protocol

loap

Osmocom Authentication Protocol

lss7

libosmo-sigtran Signalling System 7

lsccp

libosmo-sigtran SCCP Implementation

lsua

libosmo-sigtran SCCP User Adaptation

lm3ua

libosmo-sigtran MTP3 User Adaptation

lmgcp

libosmo-mgcp Media Gateway Control Protocol

ljibuf

libosmo-netif Jitter Buffer

lrspro

Remote SIM protocol

lns

GPRS NS layer

lbssgp

GPRS BSSGP layer

lnsdata

GPRS NS layer data PDU

lnssignal

GPRS NS layer signal PDU

liuup

Iu UP layer

lpfcp

libosmo-pfcp Packet Forwarding Control Protocol

lcsn1

libosmo-csn1 Concrete Syntax Notation 1 codec

lio

libosmocore IO Subsystem

debug

    Log debug messages and higher levels

info

    Log informational messages and higher levels

notice

    Log noticeable messages and higher levels

error

    Log error messages and higher levels

fatal

    Log only fatal messages

1.3.14 logging level force-all (debug|info|notice|error|fatal)

Command

```
logging level force-all (debug|info|notice|error|fatal)
```

Parameters

logging

    Configure logging

level

    Set the log level for a specified category

force-all

    Globally force all logging categories to a specific level. This is released by the 'no logging level force-all' command. Note: any 'logging level <category> <level>' commands will have no visible effect after this, until the forced level is released.

debug

    Log debug messages and higher levels

info

    Log informational messages and higher levels

notice

    Log noticeable messages and higher levels

error

    Log error messages and higher levels

fatal

    Log only fatal messages

1.3.15 logging level set-all (debug|info|notice|error|fatal)

Command

```
logging level set-all (debug|info|notice|error|fatal)
```

Parameters

logging

Configure logging

level

Set the log level for a specified category

set-all

Once-off set all categories to the given log level. There is no single command to take back these changes -- each category is set to the given level, period.

debug

Log debug messages and higher levels

info

Log informational messages and higher levels

notice

Log noticeable messages and higher levels

error

Log error messages and higher levels

fatal

Log only fatal messages

1.3.16 logging print category (0|1)

Command

```
logging print category (0|1)
```

Parameters

logging

Configure logging

print

Log output settings

category

Configure log message

0

Don't prefix each log message

1

Prefix each log message with category/subsystem name

1.3.17   logging print category-hex (0|1)

Command

```
logging print category-hex (0|1)
```

Parameters

logging
> Configure logging

print
> Log output settings

category-hex
> Configure log message

0
> Don't prefix each log message

1
> Prefix each log message with category/subsystem nr in hex ('<000b>')

1.3.18   logging print extended-timestamp (0|1)

Command

```
logging print extended-timestamp (0|1)
```

Parameters

logging
> Configure logging

print
> Log output settings

extended-timestamp
> Configure log message timestamping

0
> Don't prefix each log message

1
> Prefix each log message with current timestamp with YYYYMMDDhhmmssnnn

1.3.19 logging print file (0|1|basename) [last]

Command

```
logging print file (0|1|basename) [last]
```

Parameters

logging

    Configure logging

print

    Log output settings

file

    Configure log message

0

    Don't prefix each log message

1

    Prefix each log message with the source file and line

basename

    Prefix each log message with the source file's basename (strip leading paths) and line

[last]

    Log source file info at the end of a log line. If omitted, log source file info just before the log text.

1.3.20 logging print level (0|1)

Command

```
logging print level (0|1)
```

Parameters

logging

    Configure logging

print

    Log output settings

level

    Configure log message

0

    Don't prefix each log message

1

    Prefix each log message with the log level name

1.3.21 logging print thread-id (0|1)

Command

```
logging print thread-id (0|1)
```

Parameters

logging

    Configure logging

print

    Log output settings

thread-id

    Configure log message logging Thread ID

0

    Don't prefix each log message

1

    Prefix each log message with current Thread ID

1.3.22 logging set-log-mask MASK

Command

```
logging set-log-mask MASK
```

Parameters

logging

    Configure logging

set-log-mask

    Set the logmask of this logging target

MASK

    List of logging categories to log, e.g. 'abc:mno:xyz'. Available log categories depend on the specific application, refer to the 'logging level' command. Optionally add individual log levels like 'abc,1:mno,3:xyz,5', where the level numbers are LOGL_DEBUG=1 LOGL_INFO=3 LOGL_NOTICE=5 LOGL_ERROR=7 LOGL_FATAL=8

1.3.23 logging timestamp (0|1)

Command

```
logging timestamp (0|1)
```

Parameters

logging

Configure logging

timestamp

Configure log message timestamping

0

Don't prefix each log message

1

Prefix each log message with current timestamp

1.3.24 logp (gprs|obj||lglobal|llapd|linp|lmux|lmi|lmib|lsms|lctrl||lgtp|lstats|lgsup|loa...

Command

```
logp (gprs|obj|lglobal|llapd|linp|lmux|lmi|lmib|lsms|lctrl|lgtp|lstats|lgsup|loap|lss7| ←↩
    lsccp|lsua|lm3ua|lmgcp|ljibuf|lrspro|lns|lbssgp|lnsdata|lnssignal|liuup|lpfcp|lcsn1 ←↩
    |lio) (debug|info|notice|error|fatal) .LOGMESSAGE
```

Parameters

logp

Print a message on all log outputs; useful for placing markers in test logs

gprs

GPRS Packet Service

obj

GbProxy object allocation/release

lglobal

Library-internal global log family

llapd

LAPD in libosmogsm

linp

A-bis Intput Subsystem

lmux

A-bis B-Subchannel TRAU Frame Multiplex

lmi

A-bis Input Driver for Signalling

lmib

A-bis Input Driver for B-Channels (voice)

lsms

Layer3 Short Message Service (SMS)

lctrl

Control Interface

lgtp

    GPRS GTP library

lstats

    Statistics messages and logging

lgsup

    Generic Subscriber Update Protocol

loap

    Osmocom Authentication Protocol

lss7

    libosmo-sigtran Signalling System 7

lsccp

    libosmo-sigtran SCCP Implementation

lsua

    libosmo-sigtran SCCP User Adaptation

lm3ua

    libosmo-sigtran MTP3 User Adaptation

lmgcp

    libosmo-mgcp Media Gateway Control Protocol

ljibuf

    libosmo-netif Jitter Buffer

lrspro

    Remote SIM protocol

lns

    GPRS NS layer

lbssgp

    GPRS BSSGP layer

lnsdata

    GPRS NS layer data PDU

lnssignal

    GPRS NS layer signal PDU

liuup

    Iu UP layer

lpfcp

    libosmo-pfcp Packet Forwarding Control Protocol

lcsn1

    libosmo-csn1 Concrete Syntax Notation 1 codec

lio

    libosmocore IO Subsystem

debug

Log debug messages and higher levels

info

Log informational messages and higher levels

notice

Log noticeable messages and higher levels

error

Log error messages and higher levels

fatal

Log only fatal messages

.LOGMESSAGE

Arbitrary message to log on given category and log level

1.3.25 no logging level force-all

Command

```
no logging level force-all
```

Parameters

no

Negate a command or set its defaults

logging

Configure logging

level

Set the log level for a specified category

force-all

Release any globally forced log level set with 'logging level force-all <level>'

1.3.26 nse <0-65535> restart-sns

Command

```
nse <0-65535> restart-sns
```

Parameters

nse

NSE specific commands

<0-65535>

NS Entity ID (NSEI)

restart-sns

Restart SNS procedure

1.3.27 nsvc <0-65535> (block|unblock|reset)

Command

```
nsvc <0-65535> (block|unblock|reset)
```

Parameters

nsvc

>   NS Virtual Connection

<0-65535>

>   NS Virtual Connection ID (NS-VCI)

block

>   Block a NSVC. As cause code O&M intervention will be used.

unblock

>   Unblock a NSVC. As cause code O&M intervention will be used.

reset

>   Reset a NSVC. As cause code O&M intervention will be used.

1.3.28 show alarms

Command

```
show alarms
```

Parameters

show

>   Show running system information

alarms

>   Show current logging configuration

1.3.29 show asciidoc counters

Command

```
show asciidoc counters
```

Parameters

show

>   Show running system information

asciidoc

>   Asciidoc generation

counters

>   Generate table of all registered counters

1.3.30 **show cpu-sched threads**

Command

```
show cpu-sched threads
```

Parameters

show

Show running system information

cpu-sched

Show Sched section information

threads

Show information about running threads)

1.3.31 **show fsm NAME**

Command

```
show fsm NAME
```

Parameters

show

Show running system information

fsm

Show information about finite state machines

NAME

Display information about a single named finite state machine

1.3.32 **show fsm all**

Command

```
show fsm all
```

Parameters

show

Show running system information

fsm

Show information about finite state machines

all

Display a list of all registered finite state machines

1.3.33   show fsm-instances NAME

Command

```
show fsm-instances NAME
```

Parameters

show

>   Show running system information

fsm-instances

>   Show information about finite state machine instances

NAME

>   Display a list of all FSM instances of the named finite state machine

1.3.34   show fsm-instances all

Command

```
show fsm-instances all
```

Parameters

show

>   Show running system information

fsm-instances

>   Show information about finite state machine instances

all

>   Display a list of all FSM instances of all finite state machine

1.3.35   show fsm-state-graph NAME

Command

```
show fsm-state-graph NAME
```

Parameters

show

>   Show running system information

fsm-state-graph

>   Generate a state transition graph (using DOT language)

NAME

>   FSM name

1.3.36   show gbproxy bvc (bss|sgsn) [stats]

Command

```
show gbproxy bvc (bss|sgsn) [stats]
```

Parameters

show

    Show running system information

gbproxy

    Display information about the Gb proxy

bvc

    Show BSSGP Virtual Connections

bss

    Display BSS-side BVCs

sgsn

    Display SGSN-side BVCs

[stats]

    Show statistics

1.3.37   show gbproxy bvc (bss|sgsn) nsei <0-65535> [stats]

Command

```
show gbproxy bvc (bss|sgsn) nsei <0-65535> [stats]
```

Parameters

show

    Show running system information

gbproxy

    Display information about the Gb proxy

bvc

    Show BSSGP Virtual Connections

bss

    Display BSS-side BVCs

sgsn

    Display SGSN-side BVCs

nsei

    Limit display to cells from an NSE

<0-65535>

    NSEI to use

[stats]

    Show statistics

1.3.38 show gbproxy cell [stats]

Command

```
show gbproxy cell [stats]
```

Parameters

show

    Show running system information

gbproxy

    Display information about the Gb proxy

cell

    Show GPRS Cell Information

[stats]

    Show statistics

1.3.39 show gbproxy cell nsei <0-65535> [stats]

Command

```
show gbproxy cell nsei <0-65535> [stats]
```

Parameters

show

    Show running system information

gbproxy

    Display information about the Gb proxy

cell

    Show GPRS Cell Information

nsei

    Limit display to cells from an NSE

<0-65535>

    NSEI to use

[stats]

    Show statistics

1.3.40 show gbproxy imsi-cache

Command

```
show gbproxy imsi-cache
```

Parameters

show

Show running system information

gbproxy

Display information about the Gb proxy

imsi-cache

Show IMSI cache entries

1.3.41 show gbproxy tlli-cache

Command

```
show gbproxy tlli-cache
```

Parameters

show

Show running system information

gbproxy

Display information about the Gb proxy

tlli-cache

Show TLLI cache entries

1.3.42 show history

Command

```
show history
```

Parameters

show

Show running system information

history

Display the session command history

1.3.43 show logging vty

Command

```
show logging vty
```

Parameters

show

Show running system information

logging

Show current logging configuration

vty

Show current logging configuration for this vty

1.3.44 show nri all

Command

```
show nri all
```

Parameters

show

Show running system information

nri

Mapping of Network Resource Indicators to this SGSN, for SGSN pooling

all

Show all SGSNs

1.3.45 show nri nsei <0-65535>

Command

```
show nri nsei <0-65535>
```

Parameters

show

Show running system information

nri

Mapping of Network Resource Indicators to this SGSN, for SGSN pooling

nsei

Identify SGSN by NSEI

<0-65535>

NSEI of the SGSN

1.3.46 show ns (nsei|nsvc) <0-65535> [stats]

Command

```
show ns (nsei|nsvc) <0-65535> [stats]
```

Parameters

show

Show running system information

ns

Display information about the NS protocol

nsei

Select one NSE by its NSE Identifier

nsvc

Select one NSE by its NS-VC Identifier

<0-65535>

The Identifier of selected type

[stats]

Include Statistics

1.3.47 show ns binds [stats]

Command

```
show ns binds [stats]
```

Parameters

show

Show running system information

ns

Display information about the NS protocol

binds

Display information about the NS protocol binds

[stats]

Include statistic

1.3.48   show ns entities [stats]

Command

```
show ns entities [stats]
```

Parameters

show

   Show running system information

ns

   Display information about the NS protocol

entities

   Display information about the NS protocol entities (NSEs)

[stats]

   Include statistics

1.3.49   show ns persistent

Command

```
show ns persistent
```

Parameters

show

   Show running system information

ns

   Display information about the NS protocol

persistent

   Show only persistent NS

1.3.50   show online-help

Command

```
show online-help
```

Parameters

show

   Show running system information

online-help

   Online help

1.3.51 show rate-counters [skip-zero]

Command

```
show rate-counters [skip-zero]
```

Parameters

show

Show running system information

rate-counters

Show all rate counters

[skip-zero]

Skip items with total count zero

1.3.52 show startup-config

Command

```
show startup-config
```

Parameters

show

Show running system information

startup-config

Contentes of startup configuration

1.3.53 show stats [skip-zero]

Command

```
show stats [skip-zero]
```

Parameters

show

Show running system information

stats

Show statistical values

[skip-zero]

Skip items with total count zero

1.3.54 show stats level (global|peer|subscriber) [skip-zero]

Command

```
show stats level (global|peer|subscriber) [skip-zero]
```

Parameters

show

Show running system information

stats

Show statistical values

level

Set the maximum group level

global

Show global groups only

peer

Show global and network peer related groups

subscriber

Show global, peer, and subscriber groups

[skip-zero]

Skip items with total count zero

1.3.55 show talloc-context (application|global|all) (full|brief|DEPTH)

Command

```
show talloc-context (application|global|all) (full|brief|DEPTH)
```

Parameters

show

Show running system information

talloc-context

Show talloc memory hierarchy

application

Application's context

global

Global context (OTC_GLOBAL)

all

All contexts, if NULL-context tracking is enabled

full

Display a full talloc memory hierarchy

brief

Display a brief talloc memory hierarchy

DEPTH

Specify required maximal depth value

1.3.56 show talloc-context (application|global|all) (full|brief|DEPTH) filter REGEXP

Command

```
show talloc-context (application|global|all) (full|brief|DEPTH) filter REGEXP
```

Parameters

show

Show running system information

talloc-context

Show talloc memory hierarchy

application

Application's context

global

Global context (OTC_GLOBAL)

all

All contexts, if NULL-context tracking is enabled

full

Display a full talloc memory hierarchy

brief

Display a brief talloc memory hierarchy

DEPTH

Specify required maximal depth value

filter

Filter chunks using regular expression

REGEXP

Regular expression

1.3.57 show talloc-context (application|global|all) (full|brief|DEPTH) tree ADDRESS

Command

```
show talloc-context (application|global|all) (full|brief|DEPTH) tree ADDRESS
```

Parameters

show

    Show running system information

talloc-context

    Show talloc memory hierarchy

application

    Application's context

global

    Global context (OTC_GLOBAL)

all

    All contexts, if NULL-context tracking is enabled

full

    Display a full talloc memory hierarchy

brief

    Display a brief talloc memory hierarchy

DEPTH

    Specify required maximal depth value

tree

    Display only a specific memory chunk

ADDRESS

    Chunk address (e.g. 0xdeadbeef)

1.3.58   show version

Command

```
show version
```

Parameters

show

    Show running system information

version

    Displays program version

1.3.59   shutdown

Command

```
shutdown
```

Parameters

shutdown

    Request a shutdown of the program

1.3.60 stats report

Command

```
stats report
```

Parameters

stats
> Stats related commands

report
> Manurally trigger reporting of stats

1.3.61 stats reset

Command

```
stats reset
```

Parameters

stats
> Stats related commands

reset
> Reset all rate counter stats

1.3.62 terminal length <0-512>

Command

```
terminal length <0-512>
```

Parameters

terminal
> Set terminal line parameters

length
> Set number of lines on a screen

<0-512>
> Number of lines on screen (0 for no pausing)

1.3.63 terminal monitor

Command

```
terminal monitor
```

Parameters

terminal

    Set terminal line parameters

monitor

    Copy debug output to the current terminal line

1.3.64 terminal no length

Command

```
terminal no length
```

Parameters

terminal

    Set terminal line parameters

no

    Negate a command or set its defaults

length

    Set number of lines on a screen

1.3.65 terminal no monitor

Command

```
terminal no monitor
```

Parameters

terminal

    Set terminal line parameters

no

    Negate a command or set its defaults

monitor

    Copy debug output to the current terminal line

1.3.66 who

Command

```
who
```

Parameters

who

Display who is on vty

1.4 config

The config node is the root for all configuration commands, which are identical to the config file format. Changes made on the telnet VTY can be made persistent with the 'write file' command.

1.4.1 banner motd default

Command

```
banner motd default
```

Parameters

banner

Set banner string

motd

Strings for motd

default

Default string

1.4.2 banner motd file [FILE]

Command

```
banner motd file [FILE]
```

Parameters

banner

Set banner

motd

Banner for motd

file

Banner from a file

[FILE]

Filename

1.4.3 cpu-sched

Command

```
cpu-sched
```

Parameters

cpu-sched
    Configure CPU Scheduler related settings

1.4.4 ctrl

Command

```
ctrl
```

Parameters

ctrl
    Configure the Control Interface

1.4.5 enable password (8|) WORD

Command

```
enable password (8|) WORD
```

Parameters

enable
    Modify enable password parameters

password
    Assign the privileged level password

8
    Specifies a HIDDEN password will follow

dummy string

WORD
    The HIDDEN 'enable' password string

1.4.6 enable password LINE

Command

```
enable password LINE
```

Parameters

enable

Modify enable password parameters

password

Assign the privileged level password

LINE

The UNENCRYPTED (cleartext) 'enable' password

1.4.7 gbproxy

Command

```
gbproxy
```

Parameters

gbproxy

Configure the Gb proxy

1.4.8 hostname WORD

Command

```
hostname WORD
```

Parameters

hostname

Set system's network name

WORD

This system's network name

1.4.9 line vty

Command

```
line vty
```

Parameters

line

Configure a terminal line

vty

Virtual terminal

1.4.10 log alarms <2-32700>

Command

```
log alarms <2-32700>
```

Parameters

log

Configure logging sub-system

alarms

Logging alarms to osmo_strrb

<2-32700>

Maximum number of messages to log

1.4.11 log file FILENAME [blocking-io]

Command

```
log file FILENAME [blocking-io]
```

Parameters

log

Configure logging sub-system

file

Logging to text file

FILENAME

Filename

[blocking-io]

Use blocking, synchronous I/O

1.4.12 log gsmtap [HOSTNAME]

Command

```
log gsmtap [HOSTNAME]
```

Parameters

log

Configure logging sub-system

gsmtap

Logging via GSMTAP

[HOSTNAME]

Host name to send the GSMTAP logging to (UDP port 4729)

1.4.13 log stderr [blocking-io]

Command

```
log stderr [blocking-io]
```

Parameters

log

Configure logging sub-system

stderr

Logging via STDERR of the process

[blocking-io]

Use blocking, synchronous I/O

1.4.14 log syslog (authpriv|cron|daemon|ftp|lpr|mail|news|user|uucp)

Command

```
log syslog (authpriv|cron|daemon|ftp|lpr|mail|news|user|uucp)
```

Parameters

log

Configure logging sub-system

syslog

Logging via syslog

authpriv

Security/authorization messages facility

cron

Clock daemon (cron/at) facility

daemon

General system daemon facility

ftp

Ftp daemon facility

lpr

Line printer facility

mail

Mail facility

news

News facility

user

Generic facility

uucp

UUCP facility

1.4.15 log syslog local <0-7>

Command

```
log syslog local <0-7>
```

Parameters

log

    Configure logging sub-system

syslog

    Logging via syslog

local

    Syslog LOCAL facility

<0-7>

    Local facility number

1.4.16 log systemd-journal [raw]

Command

```
log systemd-journal [raw]
```

Parameters

log

    Configure logging sub-system

systemd-journal

    Logging to systemd-journal

[raw]

    Offload rendering of the meta information (location, category) to systemd

1.4.17 no banner motd

Command

```
no banner motd
```

Parameters

no

    Negate a command or set its defaults

banner

    Set banner string

motd

    Strings for motd

1.4.18 no enable password

Command

```
no enable password
```

Parameters

no
    Negate a command or set its defaults

enable
    Modify enable password parameters

password
    Assign the privileged level password

1.4.19 no hostname [HOSTNAME]

Command

```
no hostname [HOSTNAME]
```

Parameters

no
    Negate a command or set its defaults

hostname
    Reset system's network name

[HOSTNAME]
    Host name of this router

1.4.20 no log alarms

Command

```
no log alarms
```

Parameters

no
    Negate a command or set its defaults

log
    Configure logging sub-system

alarms
    Logging alarms to osmo_strrb

1.4.21 **no log file FILENAME**

Command

```
no log file FILENAME
```

Parameters

no

Negate a command or set its defaults

log

Configure logging sub-system

file

Logging to text file

FILENAME

Filename

1.4.22 **no log gsmtap [HOSTNAME]**

Command

```
no log gsmtap [HOSTNAME]
```

Parameters

no

Negate a command or set its defaults

log

Configure logging sub-system

gsmtap

Logging via GSMTAP

[HOSTNAME]

Host name to send the GSMTAP logging to (UDP port 4729)

1.4.23 **no log stderr**

Command

```
no log stderr
```

Parameters

no

Negate a command or set its defaults

log

Configure logging sub-system

stderr

Logging via STDERR of the process

1.4.24 no log syslog

Command

```
no log syslog
```

Parameters

no

Negate a command or set its defaults

log

Configure logging sub-system

syslog

Logging via syslog

1.4.25 no log systemd-journal

Command

```
no log systemd-journal
```

Parameters

no

Negate a command or set its defaults

log

Configure logging sub-system

systemd-journal

Logging to systemd-journal

1.4.26 no service advanced-vty

Command

```
no service advanced-vty
```

Parameters

no

Negate a command or set its defaults

service

Set up miscellaneous service

advanced-vty

Enable advanced mode vty interface

1.4.27 no service terminal-length [<0-512>]

Command

```
no service terminal-length [<0-512>]
```

Parameters

no
    Negate a command or set its defaults

service
    Set up miscellaneous service

terminal-length
    System wide terminal length configuration

[<0-512>]
    Number of lines of VTY (0 means no line control)

1.4.28 no stats reporter log [NAME]

Command

```
no stats reporter log [NAME]
```

Parameters

no
    Negate a command or set its defaults

stats
    Configure stats sub-system

reporter
    Configure a stats reporter

log
    Report to the logger

[NAME]
    Name of the reporter

1.4.29 no stats reporter statsd [NAME]

Command

```
no stats reporter statsd [NAME]
```

Parameters

no

    Negate a command or set its defaults

stats

    Configure stats sub-system

reporter

    Configure a stats reporter

statsd

    Report to a STATSD server

[NAME]

    Name of the reporter

1.4.30   ns

Command

```
ns
```

Parameters

ns

    Configure the GPRS Network Service

1.4.31   password (8|) WORD

Command

```
password (8|) WORD
```

Parameters

password

    Assign the terminal connection password

8

    Specifies a HIDDEN password will follow

dummy string

WORD

    The HIDDEN line password string

1.4.32 password LINE

Command

```
password LINE
```

Parameters

password

Assign the terminal connection password

LINE

The UNENCRYPTED (cleartext) line password

1.4.33 service advanced-vty

Command

```
service advanced-vty
```

Parameters

service

Set up miscellaneous service

advanced-vty

Enable advanced mode vty interface

1.4.34 service terminal-length <0-512>

Command

```
service terminal-length <0-512>
```

Parameters

service

Set up miscellaneous service

terminal-length

System wide terminal length configuration

<0-512>

Number of lines of VTY (0 means no line control)

1.4.35   sgsn nsei <0-65534>

Command

```
sgsn nsei <0-65534>
```

Parameters

sgsn

 Configure the SGSN

nsei

 NSEI to be used in the connection with the SGSN

<0-65534>

 The NSEI

1.4.36   show history

Command

```
show history
```

Parameters

show

 Show running system information

history

 Display the session command history

1.4.37   stats interval <0-65535>

Command

```
stats interval <0-65535>
```

Parameters

stats

 Configure stats sub-system

interval

 Set the reporting interval

<0-65535>

 Interval in seconds (0 disables the reporting interval)

1.4.38 stats reporter log [NAME]

Command

```
stats reporter log [NAME]
```

Parameters

stats
>   Configure stats sub-system

reporter
>   Configure a stats reporter

log
>   Report to the logger

[NAME]
>   Name of the reporter

1.4.39 stats reporter statsd [NAME]

Command

```
stats reporter statsd [NAME]
```

Parameters

stats
>   Configure stats sub-system

reporter
>   Configure a stats reporter

statsd
>   Report to a STATSD server

[NAME]
>   Name of the reporter

1.4.40 stats-tcp batch-size <1-65535>

Command

```
stats-tcp batch-size <1-65535>
```

Parameters

stats-tcp
>   Configure stats sub-system

batch-size
>   Set the number of tcp sockets that are processed per stats polling interval

<1-65535>
>   Number of sockets per interval

1.4.41 stats-tcp interval <0-65535>

Command

```
stats-tcp interval <0-65535>
```

Parameters

stats-tcp

> Configure stats sub-system

interval

> Set the tcp socket stats polling interval

<0-65535>

> Interval in seconds (0 disables the polling interval)

1.5 config-log

The log node is commonly available in all Osmocom programs and allows configuring logging to stderr and/or log files, including logging category and level filtering as well as output formatting options. Note that the 'logging enable' command is required to make logging commands available on the telnet VTY.

1.5.1 logging color (0|1)

Command

```
logging color (0|1)
```

Parameters

logging

> Configure logging

color

> Configure color-printing for log messages

0

> Don't use color for printing messages

1

> Use color for printing messages

1.5.2 logging filter all (0|1)

Disable/enable general log output on a given target. Typically, 'logging filter all 1' allows to see the usual log output on a given target. Setting to '0' can be useful when logging to the telnet VTY console: mute all log output to allow typing VTY commands on the telnet prompt without interference from log output; 'logging filter all 1' then re-enables logging in the same log output configuration as before. Some applications provide more specific filters, e.g. to log a given IMSI only. To employ such filters, set 'logging filter all 0' to disable general logging, and then enable a more specific filter instead.

Command

```
logging filter all (0|1)
```

Parameters

logging

    Configure logging

filter

    Filter log messages

all

    Do you want to log all messages?

0

    Only print messages matched by other filters

1

    Bypass filter and print all messages

1.5.3 logging filter nse nsei <0-65535>

Command

```
logging filter nse nsei <0-65535>
```

Parameters

logging

    Configure logging

filter

    Filter log messages

nse

    Filter based on NS Entity

nsei

    Identify NSE by NSEI

<0-65535>

    Numeric identifier

1.5.4 logging filter nsvc nsvci <0-65535>

Command

```
logging filter nsvc nsvci <0-65535>
```

Parameters

logging

Configure logging

filter

Filter log messages

nsvc

Filter based on NS Virtual Connection

nsvci

Identify NS-VC by NSVCI

<0-65535>

Numeric identifier

1.5.5 logging level (gprs|obj|lglobal|llapd|linp|lmux|lmi|lmib|lsms|lctrl|lgtp|lstats|...

Command

```
logging level (gprs|obj|lglobal|llapd|linp|lmux|lmi|lmib|lsms|lctrl|lgtp|lstats|lgsup| ←↩
    loap|lss7|lsccp|lsua|lm3ua|lmgcp|ljibuf|lrspro|lns|lbssgp|lnsdata|lnssignal|liuup| ←↩
    lpfcp|lcsn1|lio) (debug|info|notice|error|fatal)
```

Parameters

logging

Configure logging

level

Set the log level for a specified category

gprs

GPRS Packet Service

obj

GbProxy object allocation/release

lglobal

Library-internal global log family

llapd

LAPD in libosmogsm

linp

A-bis Intput Subsystem

lmux

A-bis B-Subchannel TRAU Frame Multiplex

lmi

A-bis Input Driver for Signalling

lmib

A-bis Input Driver for B-Channels (voice)

lsms

Layer3 Short Message Service (SMS)

lctrl

Control Interface

lgtp

GPRS GTP library

lstats

Statistics messages and logging

lgsup

Generic Subscriber Update Protocol

loap

Osmocom Authentication Protocol

lss7

libosmo-sigtran Signalling System 7

lsccp

libosmo-sigtran SCCP Implementation

lsua

libosmo-sigtran SCCP User Adaptation

lm3ua

libosmo-sigtran MTP3 User Adaptation

lmgcp

libosmo-mgcp Media Gateway Control Protocol

ljibuf

libosmo-netif Jitter Buffer

lrspro

Remote SIM protocol

lns

GPRS NS layer

lbssgp

GPRS BSSGP layer

lnsdata

GPRS NS layer data PDU

lnssignal

    GPRS NS layer signal PDU

liuup

    Iu UP layer

lpfcp

    libosmo-pfcp Packet Forwarding Control Protocol

lcsn1

    libosmo-csn1 Concrete Syntax Notation 1 codec

lio

    libosmocore IO Subsystem

debug

    Log debug messages and higher levels

info

    Log informational messages and higher levels

notice

    Log noticeable messages and higher levels

error

    Log error messages and higher levels

fatal

    Log only fatal messages

1.5.6 logging level force-all (debug|info|notice|error|fatal)

Command

```
logging level force-all (debug|info|notice|error|fatal)
```

Parameters

logging

    Configure logging

level

    Set the log level for a specified category

force-all

    Globally force all logging categories to a specific level. This is released by the 'no logging level force-all' command. Note: any 'logging level <category> <level>' commands will have no visible effect after this, until the forced level is released.

debug

    Log debug messages and higher levels

info

    Log informational messages and higher levels

notice

Log noticeable messages and higher levels

error

Log error messages and higher levels

fatal

Log only fatal messages

1.5.7 logging level set-all (debug|info|notice|error|fatal)

Command

```
logging level set-all (debug|info|notice|error|fatal)
```

Parameters

logging

Configure logging

level

Set the log level for a specified category

set-all

Once-off set all categories to the given log level. There is no single command to take back these changes -- each category is set to the given level, period.

debug

Log debug messages and higher levels

info

Log informational messages and higher levels

notice

Log noticeable messages and higher levels

error

Log error messages and higher levels

fatal

Log only fatal messages

1.5.8 logging print category (0|1)

Command

```
logging print category (0|1)
```

Parameters

logging

Configure logging

print

   Log output settings

category

   Configure log message

0

   Don't prefix each log message

1

   Prefix each log message with category/subsystem name

1.5.9   logging print category-hex (0|1)

Command

```
logging print category-hex (0|1)
```

Parameters

logging

   Configure logging

print

   Log output settings

category-hex

   Configure log message

0

   Don't prefix each log message

1

   Prefix each log message with category/subsystem nr in hex ('<000b>')

1.5.10   logging print extended-timestamp (0|1)

Command

```
logging print extended-timestamp (0|1)
```

Parameters

logging

   Configure logging

print

   Log output settings

extended-timestamp

   Configure log message timestamping

0

   Don't prefix each log message

1

   Prefix each log message with current timestamp with YYYYMMDDhhmmssnnn

1.5.11   logging print file (0|1|basename) [last]

Command

```
logging print file (0|1|basename) [last]
```

Parameters

logging
>   Configure logging

print
>   Log output settings

file
>   Configure log message

0
>   Don't prefix each log message

1
>   Prefix each log message with the source file and line

basename
>   Prefix each log message with the source file's basename (strip leading paths) and line

[last]
>   Log source file info at the end of a log line. If omitted, log source file info just before the log text.

1.5.12   logging print level (0|1)

Command

```
logging print level (0|1)
```

Parameters

logging
>   Configure logging

print
>   Log output settings

level
>   Configure log message

0
>   Don't prefix each log message

1
>   Prefix each log message with the log level name

1.5.13   logging print thread-id (0|1)

Command

```
logging print thread-id (0|1)
```

Parameters

logging
      Configure logging

print
      Log output settings

thread-id
      Configure log message logging Thread ID

0
      Don't prefix each log message

1
      Prefix each log message with current Thread ID

1.5.14   logging timestamp (0|1)

Command

```
logging timestamp (0|1)
```

Parameters

logging
      Configure logging

timestamp
      Configure log message timestamping

0
      Don't prefix each log message

1
      Prefix each log message with current timestamp

1.5.15   no logging level force-all

Command

```
no logging level force-all
```

Parameters

no

    Negate a command or set its defaults

logging

    Configure logging

level

    Set the log level for a specified category

force-all

    Release any globally forced log level set with 'logging level force-all <level>'

1.6 config-stats

1.6.1 disable

Command

```
disable
```

Parameters

disable

    Disable the reporter

1.6.2 enable

Command

```
enable
```

Parameters

enable

    Enable the reporter

1.6.3 flush-period <0-65535>

Command

```
flush-period <0-65535>
```

Parameters

flush-period

    Configure stats sub-system

<0-65535>

    Send all stats even if they have not changed (i.e. force the flush)every N-th reporting interval. Set to 0 to disable regular flush (default).

1.6.4 level (global|peer|subscriber)

Command

```
level (global|peer|subscriber)
```

Parameters

level
>Set the maximum group level

global
>Report global groups only

peer
>Report global and network peer related groups

subscriber
>Report global, peer, and subscriber groups

1.6.5 local-ip ADDR

Command

```
local-ip ADDR
```

Parameters

local-ip
>Set the IP address to which we bind locally

ADDR
>IP Address

1.6.6 mtu <100-65535>

Command

```
mtu <100-65535>
```

Parameters

mtu
>Set the maximum packet size

<100-65535>
>Size in byte

1.6.7 no local-ip

Command

```
no local-ip
```

Parameters

no

 Negate a command or set its defaults

local-ip

 Set the IP address to which we bind locally

1.6.8 no mtu

Command

```
no mtu
```

Parameters

no

 Negate a command or set its defaults

mtu

 Set the maximum packet size

1.6.9 no prefix

Command

```
no prefix
```

Parameters

no

 Negate a command or set its defaults

prefix

 Set the item name prefix

1.6.10 prefix PREFIX

Command

```
prefix PREFIX
```

Parameters

prefix

 Set the item name prefix

PREFIX

 The prefix string

1.6.11 remote-ip ADDR

Command

```
remote-ip ADDR
```

Parameters

remote-ip

Set the remote IP address to which we connect

ADDR

IP Address

1.6.12 remote-port <1-65535>

Command

```
remote-port <1-65535>
```

Parameters

remote-port

Set the remote port to which we connect

<1-65535>

Remote port number

1.7 config-line

1.7.1 bind A.B.C.D [<0-65535>]

Command

```
bind A.B.C.D [<0-65535>]
```

Parameters

bind

Accept VTY telnet connections on local interface

A.B.C.D

Local interface IP address (default: 127.0.0.1)

[<0-65535>]

Local TCP port number

1.7.2 login

Command

```
login
```

Parameters

login

Enable password checking

1.7.3 no login

Command

```
no login
```

Parameters

no

Negate a command or set its defaults

login

Enable password checking

1.8 config-ns

1.8.1 bind (fr|udp) ID

Command

```
bind (fr|udp) ID
```

Parameters

bind

Configure local Bind

fr

Frame Relay

udp

UDP/IP

ID

Unique identifier for this bind (to reference from NS-VCs, NSEs, ...)

1.8.2 ip-sns-default bind ID

Command

```
ip-sns-default bind ID
```

Parameters

ip-sns-default

> Defaults for dynamically created NSEs created by IP-SNS in SGSN role

bind

> IP SNS binds

ID

> Name of NS udp bind whose IP endpoint will be used as IP-SNS local endpoint. Can be given multiple times.

1.8.3 no bind ID

Command

```
no bind ID
```

Parameters

no

> Negate a command or set its defaults

bind

> Delete a bind

ID

> Unique identifier for this bind

1.8.4 no ip-sns-default bind ID

Command

```
no ip-sns-default bind ID
```

Parameters

no

> Negate a command or set its defaults

ip-sns-default

> Defaults for dynamically created NSEs created by IP-SNS in SGSN role

bind

> IP SNS binds

ID

> Name of NS udp bind whose IP endpoint will be removed as IP-SNS local endpoint.

1.8.5 no nse <0-65535>

Command

```
no nse <0-65535>
```

Parameters

no

Negate a command or set its defaults

nse

Delete a Persistent NS Entity

<0-65535>

NS Entity ID (NSEI)

1.8.6 nse <0-65535> [ip-sns-role-sgsn]

Command

```
nse <0-65535> [ip-sns-role-sgsn]
```

Parameters

nse

Persistent NS Entity

<0-65535>

NS Entity ID (NSEI)

[ip-sns-role-sgsn]

Create NSE in SGSN role (default: BSS)

1.8.7 timer (tns-block|tns-block-retries|tns-reset|tns-reset-retries|tns-test|tns-aliv...

Command

```
timer (tns-block|tns-block-retries|tns-reset|tns-reset-retries|tns-test|tns-alive|tns- ←
    alive-retries|tsns-prov|tsns-size-retries|tsns-config-retries|tsns-procedures- ←
    retries) <0-65535>
```

Parameters

timer

Network Service Timer

tns-block

(un)blocking Timer (Tns-block) timeout

tns-block-retries

    (un)blocking Timer (Tns-block) number of retries

tns-reset

    Reset Timer (Tns-reset) timeout

tns-reset-retries

    Reset Timer (Tns-reset) number of retries

tns-test

    Test Timer (Tns-test) timeout

tns-alive

    Alive Timer (Tns-alive) timeout

tns-alive-retries

    Alive Timer (Tns-alive) number of retries

tsns-prov

    SNS Provision Timer (Tsns-prov) timeout

tsns-size-retries

    SNS Size number of retries

tsns-config-retries

    SNS Config number of retries

tsns-procedures-retries

    SNS Procedures number of retries

<0-65535>

    Timer Value

1.8.8 txqueue-max-length <1-4096>

Command

```
txqueue-max-length <1-4096>
```

Parameters

txqueue-max-length

    Set the maximum length of the txqueue (for UDP)

<1-4096>

    Maximum length of the txqueue

1.9 config-ctrl

1.9.1 bind A.B.C.D [<0-65535>]

Command

```
bind A.B.C.D [<0-65535>]
```

Parameters

bind
>   Set bind address to listen for Control connections

A.B.C.D
>   Local IP address (default 127.0.0.1)

[<0-65535>]
>   Local TCP port number

1.10 config-cpu-sched

1.10.1 cpu-affinity (self|all|<0-4294967295>|THREADNAME) CPUHEXMASK [delay]

Command

```
cpu-affinity (self|all|<0-4294967295>|THREADNAME) CPUHEXMASK [delay]
```

Global attributes

Flag: !
>   This command applies immediately

Parameters

cpu-affinity
>   Set CPU affinity mask on a (group of) thread(s)

self
>   Set CPU affinity mask on thread running the VTY

all
>   Set CPU affinity mask on all process' threads

<0-4294967295>
>   Set CPU affinity mask on a thread with specified PID

THREADNAME
>   Set CPU affinity mask on a thread with specified thread name

CPUHEXMASK
>   CPU affinity mask

[delay]
>   If set, delay applying the affinity mask now and let the app handle it at a later point

1.10.2 policy rr <1-32>

Command

```
policy rr <1-32>
```

Global attributes

Flag: !

This command applies immediately

Parameters

policy

Set the scheduling policy to use for the process

rr

Use the SCHED_RR real-time scheduling algorithm

<1-32>

Set the SCHED_RR real-time priority

1.11 config-ns-bind

1.11.1 accept-dynamic-ip-sns

Command

```
accept-dynamic-ip-sns
```

Parameters

accept-dynamic-ip-sns

Allow to create dynamic NS Entities by IP-SNS PDUs

1.11.2 accept-ipaccess

Command

```
accept-ipaccess
```

Parameters

accept-ipaccess

Allow to create dynamic NS Entity by NS Reset PDU on UDP (ip.access style)

1.11.3 dscp <0-63>

Command

```
dscp <0-63>
```

Parameters

dscp

Set DSCP/TOS on the UDP socket

<0-63>

DSCP Value

1.11.4 fr NETIF (fr|frnet)

Command

```
fr NETIF (fr|frnet)
```

Parameters

fr

frame relay

NETIF

Interface name(e.g. ep0)

fr

fr (user) is used by BSS or SGSN attached to UNI of a FR network

frnet

frnet (network) is used by SGSN if BSS is directly attached

1.11.5 ip-sns signalling-weight <0-254> data-weight <0-254>

Command

```
ip-sns signalling-weight <0-254> data-weight <0-254>
```

Parameters

ip-sns

IP SNS

signalling-weight

signalling weight used by IP-SNS dynamic configuration

<0-254>

signalling weight used by IP-SNS dynamic configuration

data-weight

data weight used by IP-SNS dynamic configuration

<0-254>

data weight used by IP-SNS dynamic configuration

1.11.6 listen (A.B.C.D|X:X::X:X) <1-65535>

Command

```
listen (A.B.C.D|X:X::X:X) <1-65535>
```

Parameters

listen

Configure local IP + Port of this bind

A.B.C.D

Local IPv4 Address

X:X::X:X

Local IPv6 Address

<1-65535>

Local UDP Port

1.11.7 no accept-dynamic-ip-sns

Command

```
no accept-dynamic-ip-sns
```

Parameters

no

Negate a command or set its defaults

accept-dynamic-ip-sns

Disable dynamic creation of NS Entities by IP-SNS PDUs

1.11.8 no accept-ipaccess

Command

```
no accept-ipaccess
```

Parameters

no

Negate a command or set its defaults

accept-ipaccess

Reject NS Reset PDU on UDP (ip.access style)

1.11.9 no dscp

Command

```
no dscp
```

Parameters

no

Set DSCP/TOS on the UDP socket

dscp

DSCP Value

1.11.10 no fr NETIF

Command

```
no fr NETIF
```

Parameters

no

Negate a command or set its defaults

fr

Delete a frame relay link

NETIF

Delete a frame relay link

1.11.11 no listen

Command

```
no listen
```

Parameters

no

Negate a command or set its defaults

listen

Delete a IP/Port assignment

1.11.12 socket-priority <0-255>

Command

```
socket-priority <0-255>
```

Parameters

socket-priority

>Set socket priority on the UDP socket

<0-255>

>Priority Value (>6 requires CAP_NET_ADMIN)

1.12 config-ns-nse

1.12.1 ip-sns-bind BINDID

Command

```
ip-sns-bind BINDID
```

Parameters

ip-sns-bind

>IP SNS binds

BINDID

>Name of NS udp bind whose IP endpoint will be used as IP-SNS local endpoint. Can be given multiple times.

1.12.2 ip-sns-remote (A.B.C.D|X:X::X:X) <1-65535>

Command

```
ip-sns-remote (A.B.C.D|X:X::X:X) <1-65535>
```

Parameters

ip-sns-remote

>SNS Initial Endpoint

A.B.C.D

>SGSN IPv4 Address

X:X::X:X

>SGSN IPv6 Address

<1-65535>

>SGSN UDP Port

1.12.3 no ip-sns-bind BINDID

Command

```
no ip-sns-bind BINDID
```

Parameters

no

Negate a command or set its defaults

ip-sns-bind

IP SNS binds

BINDID

Name of NS udp bind whose IP endpoint will not be used as IP-SNS local endpoint

1.12.4 no ip-sns-remote (A.B.C.D|X:X::X:X) <1-65535>

Command

```
no ip-sns-remote (A.B.C.D|X:X::X:X) <1-65535>
```

Parameters

no

Negate a command or set its defaults

ip-sns-remote

Delete a SNS Initial Endpoint

A.B.C.D

SGSN IPv4 Address

X:X::X:X

SGSN IPv6 Address

<1-65535>

SGSN UDP Port

1.12.5 no nsvc fr NETIF dlci <16-1007>

Command

```
no nsvc fr NETIF dlci <16-1007>
```

Parameters

no

Negate a command or set its defaults

nsvc

>   Delete frame relay NS-VC

fr

>   frame relay

NETIF

>   frame relay interface. Must be registered via fr vty

dlci

>   Data Link connection identifier

<16-1007>

>   Data Link connection identifier

1.12.6 no nsvc ipa BIND (A.B.C.D|X:X::X:X) <1-65535> nsvci <0-65535>

Command

```
no nsvc ipa BIND (A.B.C.D|X:X::X:X) <1-65535> nsvci <0-65535>
```

Parameters

no

>   Negate a command or set its defaults

nsvc

>   Delete a NS Virtual Connection

ipa

>   NS over UDP

BIND

>   A unique bind identifier created by ns bind

A.B.C.D

>   Remote IPv4 Address

X:X::X:X

>   Remote IPv6 Address

<1-65535>

>   Remote UDP Port

nsvci

>   NS Virtual Connection ID (NS-VCI)

<0-65535>

>   NS Virtual Connection ID (NS-VCI)

1.12.7 no nsvc nsvci <0-65535>

Command

```
no nsvc nsvci <0-65535>
```

Parameters

no

Negate a command or set its defaults

nsvc

Delete NSVC

nsvci

NS Virtual Connection ID (NS-VCI)

<0-65535>

NS Virtual Connection ID (NS-VCI)

1.12.8 no nsvc udp BIND (A.B.C.D|X:X::X:X) <1-65535>

Command

```
no nsvc udp BIND (A.B.C.D|X:X::X:X) <1-65535>
```

Parameters

no

Negate a command or set its defaults

nsvc

Delete a NS Virtual Connection

udp

NS over UDP

BIND

A unique bind identifier created by ns bind

A.B.C.D

Remote IPv4 Address

X:X::X:X

Remote IPv6 Address

<1-65535>

Remote UDP Port

1.12.9   nsvc fr NETIF dlci <16-1007> nsvci <0-65535>

Command

```
nsvc fr NETIF dlci <16-1007> nsvci <0-65535>
```

Parameters

nsvc

    NS Virtual Connection

fr

    frame relay

NETIF

    frame relay interface. Must be registered via fr vty

dlci

    NS Virtual Connection ID (NS-VCI)

<16-1007>

    NS Virtual Connection ID (NS-VCI)

nsvci

    Data Link connection identifier

<0-65535>

    Data Link connection identifier

1.12.10   nsvc ipa BIND (A.B.C.D|X:X::X:X) <1-65535> nsvci <0-65535>

Command

```
nsvc ipa BIND (A.B.C.D|X:X::X:X) <1-65535> nsvci <0-65535>
```

Parameters

nsvc

    NS Virtual Connection

ipa

    NS over UDP ip.access style (uses RESET/BLOCK)

BIND

    A unique bind identifier created by ns bind

A.B.C.D

    Remote IPv4 Address

X:X::X:X

    Remote IPv6 Address

<1-65535>

    Remote UDP Port

nsvci

NS Virtual Connection ID (NS-VCI)

<0-65535>

NS Virtual Connection ID (NS-VCI)

1.12.11 nsvc udp BIND (A.B.C.D|X:X::X:X) <1-65535>

Command

```
nsvc udp BIND (A.B.C.D|X:X::X:X) <1-65535>
```

Parameters

nsvc

NS Virtual Connection

udp

NS over UDP

BIND

A unique bind identifier created by ns bind

A.B.C.D

Remote IPv4 Address

X:X::X:X

Remote IPv6 Address

<1-65535>

Remote UDP Port

1.12.12 nsvc udp BIND (A.B.C.D|X:X::X:X) <1-65535> signalling-weight <0-254> data-weight...

Command

```
nsvc udp BIND (A.B.C.D|X:X::X:X) <1-65535> signalling-weight <0-254> data-weight  ↩
    <0-254>
```

Parameters

nsvc

NS Virtual Connection

udp

NS over UDP

BIND

A unique bind identifier created by ns bind

A.B.C.D

Remote IPv4 Address

X:X::X:X

    Remote IPv6 Address

<1-65535>

    Remote UDP Port

signalling-weight

    Signalling weight of the NSVC (default = 1)

<0-254>

    Signalling weight of the NSVC (default = 1)

data-weight

    Data weight of the NSVC (default = 1)

<0-254>

    Data weight of the NSVC (default = 1)

1.13   config-gbproxy

Configure the Gb proxy

1.13.1   nri bitlen <0-15>

Command

```
nri bitlen <0-15>
```

Global attributes

Flag: !

    This command applies immediately

Parameters

nri

    Mapping of Network Resource Indicators to this SGSN, for SGSN pooling

bitlen

    Set number of bits that an NRI has, to extract from TMSI identities (always starting just after the TMSI's most significant octet).

<0-15>

    bit count (0 disables) pooling)

1.13.2   nri null add <0-32767> [<0-32767>]

Command

```
nri null add <0-32767> [<0-32767>]
```

Global attributes

Flag: !

This command applies immediately

Parameters

nri

Mapping of Network Resource Indicators to this SGSN, for SGSN pooling

null

Define NULL-NRI values that cause re-assignment of an MS to a different SGSN, for SGSN pooling.

add

Add NULL-NRI value (or range)

<0-32767>

First value of the NRI value range, should not surpass the configured 'nri bitlen'.

[<0-32767>]

Last value of the NRI value range, should not surpass the configured 'nri bitlen' and be larger than the first value; if omitted, apply only the first value.

1.13.3   nri null del <0-32767> [<0-32767>]

Command

```
nri null del <0-32767> [<0-32767>]
```

Global attributes

Flag: !

This command applies immediately

Parameters

nri

Mapping of Network Resource Indicators to this SGSN, for SGSN pooling

null

Define NULL-NRI values that cause re-assignment of an MS to a different SGSN, for SGSN pooling.

del

Remove NULL-NRI value (or range)

<0-32767>

First value of the NRI value range, should not surpass the configured 'nri bitlen'.

[<0-32767>]

Last value of the NRI value range, should not surpass the configured 'nri bitlen' and be larger than the first value; if omitted, apply only the first value.

1.13.4 pool bvc-flow-control-ratio <1-100>

Command

```
pool bvc-flow-control-ratio <1-100>
```

Parameters

pool
> SGSN Pool related configuration

bvc-flow-control-ratio
> Ratio of BSS-advertised bucket size + leak rate advertised to each SGSN

<1-100>
> Ratio of BSS-advertised bucket size + leak rate advertised to each SGSN (Percent)

1.14 config-sgsn

1.14.1 allow-attach

Command

```
allow-attach
```

Global attributes

Flag: !
> This command applies immediately

Parameters

allow-attach
> Allow this SGSN to attach new subscribers (default).

1.14.2 name NAME

Command

```
name NAME
```

Parameters

name
> Configure the SGSN

NAME
> Name the SGSN

1.14.3 no allow-attach

Command

```
no allow-attach
```

Global attributes

Flag: !

This command applies immediately

Parameters

no

Negate a command or set its defaults

allow-attach

Do not assign new subscribers to this SGSN. Useful if an SGSN in an SGSN pool is configured to off-load subscribers. The SGSN will still be operational for already IMSI-Attached subscribers, but the NAS node selection function will skip this SGSN for new subscribers

1.14.4 nri add <0-32767> [<0-32767>]

Command

```
nri add <0-32767> [<0-32767>]
```

Global attributes

Flag: !

This command applies immediately

Parameters

nri

Mapping of Network Resource Indicators to this SGSN, for SGSN pooling

add

Add NRI value or range to the NRI mapping for this SGSN

<0-32767>

First value of the NRI value range, should not surpass the configured 'nri bitlen'.

[<0-32767>]

Last value of the NRI value range, should not surpass the configured 'nri bitlen' and be larger than the first value; if omitted, apply only the first value.

1.14.5   nri del <0-32767> [<0-32767>]

Command

```
nri del <0-32767> [<0-32767>]
```

Global attributes

Flag: !

This command applies immediately

Parameters

nri

Mapping of Network Resource Indicators to this SGSN, for SGSN pooling

del

Remove NRI value or range from the NRI mapping for this SGSN

<0-32767>

First value of the NRI value range, should not surpass the configured 'nri bitlen'.

[<0-32767>]

Last value of the NRI value range, should not surpass the configured 'nri bitlen' and be larger than the first value; if omitted, apply only the first value.