

OsmoBSCNAT VTY Reference

Copyright © 2012-2014

This work is copyright by sysmocom - s.f.m.c. GmbH. All rights reserved.

COLLABORATORS

| | | | |
|---------------|--|------------------|------------------|
| | <i>TITLE :</i> OsmoBSCNAT VTY Reference | | |
| <i>ACTION</i> | <i>NAME</i> | <i>DATE</i> | <i>SIGNATURE</i> |
| WRITTEN BY | | January 21, 2019 | |

REVISION HISTORY

| NUMBER | DATE | DESCRIPTION | NAME |
|--------|------------------|---|------|
| v1 | 13th August 2012 | Initial | hf |
| v2 | 5th March 2014 | Update to match osmo-bsc version 0.13.0-305 | hf |

Contents

| | | |
|----------|--|----------|
| 1 | VTY reference | 1 |
| 1.1 | | 1 |
| 1.1.1 | close bsc connection BSC_NR | 1 |
| 1.1.2 | echo .MESSAGE | 2 |
| 1.1.3 | enable | 2 |
| 1.1.4 | exit | 2 |
| 1.1.5 | help | 3 |
| 1.1.6 | list | 3 |
| 1.1.7 | logging color (011) | 3 |
| 1.1.8 | logging disable | 3 |
| 1.1.9 | logging enable | 4 |
| 1.1.10 | logging filter all (011) | 4 |
| 1.1.11 | logging level (all rl lcl mml rr rs ln ml mn cc pag meas sccp mscl mgcp hold b ref gpr...) | 4 |
| 1.1.12 | logging set log mask MASK | 7 |
| 1.1.13 | logging set-log-mask MASK | 7 |
| 1.1.14 | logging timestamp (011) | 7 |
| 1.1.15 | show access-list NAME | 8 |
| 1.1.16 | show alarms | 8 |
| 1.1.17 | show bsc config | 8 |
| 1.1.18 | show bsc connections | 9 |
| 1.1.19 | show bsc mgcp NR | 9 |
| 1.1.20 | show history | 9 |
| 1.1.21 | show imsi-black-list | 10 |
| 1.1.22 | show logging vty | 10 |
| 1.1.23 | show mgcp [stats] | 10 |
| 1.1.24 | show msc connection | 11 |
| 1.1.25 | show online-help | 11 |
| 1.1.26 | show prefix-tree | 11 |
| 1.1.27 | show sccp connections | 12 |
| 1.1.28 | show statistics [NR] | 12 |

| | | |
|--------|--|----|
| 1.1.29 | show statistics-by-lac <0-65535> | 12 |
| 1.1.30 | show ussd-connection | 13 |
| 1.1.31 | show version | 13 |
| 1.1.32 | terminal length <0-512> | 13 |
| 1.1.33 | terminal no length | 14 |
| 1.1.34 | test regex PATTERN STRING | 14 |
| 1.1.35 | who | 14 |
| 1.2 | | 15 |
| 1.2.1 | close bsc connection BSC_NR | 15 |
| 1.2.2 | configure terminal | 15 |
| 1.2.3 | copy running-config startup-config | 15 |
| 1.2.4 | disable | 16 |
| 1.2.5 | echo .MESSAGE | 16 |
| 1.2.6 | exit | 16 |
| 1.2.7 | free-endpoint <0-64> NUMBER | 16 |
| 1.2.8 | help | 17 |
| 1.2.9 | list | 17 |
| 1.2.10 | logging color (01) | 17 |
| 1.2.11 | logging disable | 17 |
| 1.2.12 | logging enable | 18 |
| 1.2.13 | logging filter all (01) | 18 |
| 1.2.14 | logging level (allrlrlclmmlrrlrsllnmlmncclpaglmeaslscoplmsclmgcplholdblreflgr... | 18 |
| 1.2.15 | logging set log mask MASK | 21 |
| 1.2.16 | logging set-log-mask MASK | 21 |
| 1.2.17 | logging timestamp (01) | 21 |
| 1.2.18 | loop-endpoint <0-64> NAME (01) | 22 |
| 1.2.19 | nat-block (blocklunblock) | 22 |
| 1.2.20 | reset-all-endpoints | 23 |
| 1.2.21 | reset-endpoint <0-64> NUMBER | 23 |
| 1.2.22 | set bsc last-used-endpoint <0-9999999999> <0-1024> | 23 |
| 1.2.23 | show access-list NAME | 24 |
| 1.2.24 | show alarms | 24 |
| 1.2.25 | show bsc config | 24 |
| 1.2.26 | show bsc connections | 25 |
| 1.2.27 | show bsc mgcp NR | 25 |
| 1.2.28 | show history | 25 |
| 1.2.29 | show imsi-black-list | 26 |
| 1.2.30 | show logging vty | 26 |
| 1.2.31 | show mgcp [stats] | 26 |

| | | |
|--------|--|----|
| 1.2.32 | show msc connection | 27 |
| 1.2.33 | show online-help | 27 |
| 1.2.34 | show prefix-tree | 27 |
| 1.2.35 | show running-config | 28 |
| 1.2.36 | show sccp connections | 28 |
| 1.2.37 | show startup-config | 28 |
| 1.2.38 | show statistics [NR] | 29 |
| 1.2.39 | show statistics-by-lac <0-65535> | 29 |
| 1.2.40 | show ussd-connection | 29 |
| 1.2.41 | show version | 30 |
| 1.2.42 | tap-call <0-64> ENDPOINT (bts-in bts-out net-in net-out) A.B.C.D <0-65534> | 30 |
| 1.2.43 | terminal length <0-512> | 31 |
| 1.2.44 | terminal monitor | 31 |
| 1.2.45 | terminal no length | 31 |
| 1.2.46 | terminal no monitor | 32 |
| 1.2.47 | test regex PATTERN STRING | 32 |
| 1.2.48 | who | 32 |
| 1.2.49 | write | 33 |
| 1.2.50 | write file | 33 |
| 1.2.51 | write memory | 33 |
| 1.2.52 | write terminal | 33 |
| 1.3 | | 34 |
| 1.3.1 | banner motd default | 34 |
| 1.3.2 | banner motd file [FILE] | 34 |
| 1.3.3 | enable password (8l) WORD | 34 |
| 1.3.4 | enable password LINE | 35 |
| 1.3.5 | end | 35 |
| 1.3.6 | exit | 35 |
| 1.3.7 | help | 36 |
| 1.3.8 | hostname WORD | 36 |
| 1.3.9 | line vty | 36 |
| 1.3.10 | list | 36 |
| 1.3.11 | log alarms <2-32700> | 37 |
| 1.3.12 | log file .FILENAME | 37 |
| 1.3.13 | log stderr | 37 |
| 1.3.14 | log syslog (auth priv cron daemon ftpl prl mail news user luucp) | 38 |
| 1.3.15 | log syslog local <0-7> | 38 |
| 1.3.16 | mgcp | 39 |
| 1.3.17 | nat | 39 |

| | | |
|--------|--|----|
| 1.3.18 | no banner motd | 39 |
| 1.3.19 | no enable password | 40 |
| 1.3.20 | no hostname [HOSTNAME] | 40 |
| 1.3.21 | no log alarms | 40 |
| 1.3.22 | no log file .FILENAME | 41 |
| 1.3.23 | no log stderr | 41 |
| 1.3.24 | no log syslog | 41 |
| 1.3.25 | no service advanced-vty | 42 |
| 1.3.26 | no service terminal-length [<0-512>] | 42 |
| 1.3.27 | password (8l) WORD | 42 |
| 1.3.28 | password LINE | 43 |
| 1.3.29 | service advanced-vty | 43 |
| 1.3.30 | service terminal-length <0-512> | 43 |
| 1.3.31 | show history | 44 |
| 1.3.32 | show running-config | 44 |
| 1.3.33 | write | 44 |
| 1.3.34 | write file | 44 |
| 1.3.35 | write memory | 45 |
| 1.3.36 | write terminal | 45 |
| 1.4 | | 45 |
| 1.4.1 | end | 45 |
| 1.4.2 | exit | 45 |
| 1.4.3 | help | 46 |
| 1.4.4 | list | 46 |
| 1.4.5 | logging color (0l1) | 46 |
| 1.4.6 | logging filter all (0l1) | 47 |
| 1.4.7 | logging level (allrllclmmlrrlrsllnmlmncclpaglmeaslscclpmclmgcplholdblreflgr... | 47 |
| 1.4.8 | logging timestamp (0l1) | 49 |
| 1.4.9 | show running-config | 50 |
| 1.4.10 | write | 50 |
| 1.4.11 | write file | 50 |
| 1.4.12 | write memory | 51 |
| 1.4.13 | write terminal | 51 |
| 1.5 | MGCP Commands | 51 |
| 1.5.1 | bind early (0l1) | 51 |
| 1.5.2 | bind ip A.B.C.D | 52 |
| 1.5.3 | bind port <0-65534> | 52 |
| 1.5.4 | bts ip A.B.C.D | 52 |
| 1.5.5 | call agent ip A.B.C.D | 53 |

| | | |
|--------|--|----|
| 1.5.6 | call-agent ip A.B.C.D | 53 |
| 1.5.7 | end | 53 |
| 1.5.8 | exit | 54 |
| 1.5.9 | help | 54 |
| 1.5.10 | list | 54 |
| 1.5.11 | local ip A.B.C.D | 54 |
| 1.5.12 | loop (011) | 55 |
| 1.5.13 | no rtcp-omit | 55 |
| 1.5.14 | no rtp keep-alive | 55 |
| 1.5.15 | no rtp-patch | 56 |
| 1.5.16 | no rtp-patch ssrc | 56 |
| 1.5.17 | no rtp-patch timestamp | 56 |
| 1.5.18 | no sdp audio-payload send-ptime | 57 |
| 1.5.19 | no transcoder-mgw | 57 |
| 1.5.20 | number endpoints <0-65534> | 57 |
| 1.5.21 | rtcp-omit | 58 |
| 1.5.22 | rtp base <0-65534> | 58 |
| 1.5.23 | rtp bts-base <0-65534> | 58 |
| 1.5.24 | rtp bts-range <0-65534> <0-65534> | 59 |
| 1.5.25 | rtp ip-dscp <0-255> | 59 |
| 1.5.26 | rtp ip-tos <0-255> | 59 |
| 1.5.27 | rtp keep-alive <1-120> | 60 |
| 1.5.28 | rtp keep-alive once | 60 |
| 1.5.29 | rtp net-base <0-65534> | 60 |
| 1.5.30 | rtp net-range <0-65534> <0-65534> | 61 |
| 1.5.31 | rtp transcoder-base <0-65534> | 61 |
| 1.5.32 | rtp transcoder-range <0-65534> <0-65534> | 61 |
| 1.5.33 | rtp-patch ssrc | 62 |
| 1.5.34 | rtp-patch timestamp | 62 |
| 1.5.35 | sdp audio fmtp-extra .NAME | 62 |
| 1.5.36 | sdp audio payload name NAME | 63 |
| 1.5.37 | sdp audio payload number <1-255> | 63 |
| 1.5.38 | sdp audio-payload name NAME | 64 |
| 1.5.39 | sdp audio-payload number <1-255> | 64 |
| 1.5.40 | sdp audio-payload send-ptime | 64 |
| 1.5.41 | show running-config | 65 |
| 1.5.42 | transcoder-mgw A.B.C.D | 65 |
| 1.5.43 | transcoder-remote-base <0-65534> | 65 |
| 1.5.44 | trunk <1-64> | 65 |

| | | |
|--------|---|----|
| 1.5.45 | write | 66 |
| 1.5.46 | write file | 66 |
| 1.5.47 | write memory | 66 |
| 1.5.48 | write terminal | 66 |
| 1.6 | NAT Commands | 67 |
| 1.6.1 | access-list NAME imsi-allow [REGEXP] | 67 |
| 1.6.2 | access-list NAME imsi-deny [REGEXP] (<0-256>) (<0-256>) | 67 |
| 1.6.3 | access-list-name NAME | 68 |
| 1.6.4 | bsc BSC_NR | 68 |
| 1.6.5 | end | 68 |
| 1.6.6 | exit | 68 |
| 1.6.7 | help | 69 |
| 1.6.8 | imsi-black-list-file-name NAME | 69 |
| 1.6.9 | ip-dscp <0-255> | 69 |
| 1.6.10 | ip-tos <0-255> | 69 |
| 1.6.11 | list | 70 |
| 1.6.12 | msc ip A.B.C.D | 70 |
| 1.6.13 | msc port <1-65500> | 70 |
| 1.6.14 | no access-list NAME | 71 |
| 1.6.15 | no access-list-name | 71 |
| 1.6.16 | no imsi-black-list-file-name | 71 |
| 1.6.17 | no number-rewrite | 72 |
| 1.6.18 | no number-rewrite-post | 72 |
| 1.6.19 | no paging-group <0-1000> | 72 |
| 1.6.20 | no prefix-tree | 73 |
| 1.6.21 | no sms-clear-tp-srr | 73 |
| 1.6.22 | no sms-number-rewrite | 73 |
| 1.6.23 | number-rewrite FILENAME | 73 |
| 1.6.24 | number-rewrite-post FILENAME | 74 |
| 1.6.25 | paging-group <0-1000> | 74 |
| 1.6.26 | prefix-tree FILENAME | 74 |
| 1.6.27 | rewrite-smsc addr FILENAME | 75 |
| 1.6.28 | rewrite-smsc tp-dest-match FILENAME | 75 |
| 1.6.29 | show running-config | 75 |
| 1.6.30 | sms-clear-tp-srr FILENAME | 76 |
| 1.6.31 | sms-number-rewrite FILENAME | 76 |
| 1.6.32 | timeout auth <1-256> | 76 |
| 1.6.33 | timeout ping NR | 77 |
| 1.6.34 | timeout pong NR | 77 |

| | | |
|--------|---------------------------------|----|
| 1.6.35 | token TOKEN | 77 |
| 1.6.36 | use-msc-ipa-for-mgcp | 78 |
| 1.6.37 | ussd-list-name NAME | 78 |
| 1.6.38 | ussd-local-ip A.B.C.D | 78 |
| 1.6.39 | ussd-query REGEXP | 78 |
| 1.6.40 | ussd-token TOKEN | 79 |
| 1.6.41 | write | 79 |
| 1.6.42 | write file | 79 |
| 1.6.43 | write memory | 79 |
| 1.6.44 | write terminal | 80 |
| 1.7 | BSC Commands | 80 |
| 1.7.1 | access-list-name NAME | 80 |
| 1.7.2 | description DESC | 80 |
| 1.7.3 | end | 81 |
| 1.7.4 | exit | 81 |
| 1.7.5 | help | 81 |
| 1.7.6 | list | 81 |
| 1.7.7 | location_area_code <0-65535> | 82 |
| 1.7.8 | max-endpoints <1-1024> | 82 |
| 1.7.9 | no access-list-name | 82 |
| 1.7.10 | no location_area_code <0-65535> | 83 |
| 1.7.11 | no paging group | 83 |
| 1.7.12 | paging forbidden (0 1) | 83 |
| 1.7.13 | paging group <0-1000> | 84 |
| 1.7.14 | paging-group <0-1000> | 84 |
| 1.7.15 | show running-config | 84 |
| 1.7.16 | token TOKEN | 85 |
| 1.7.17 | write | 85 |
| 1.7.18 | write file | 85 |
| 1.7.19 | write memory | 85 |
| 1.7.20 | write terminal | 86 |
| 1.8 | Paging Group Commands | 86 |
| 1.8.1 | end | 86 |
| 1.8.2 | exit | 86 |
| 1.8.3 | help | 86 |
| 1.8.4 | list | 87 |
| 1.8.5 | location_area_code <0-65535> | 87 |
| 1.8.6 | no location_area_code <0-65535> | 87 |
| 1.8.7 | show running-config | 87 |
| 1.8.8 | write | 88 |
| 1.8.9 | write file | 88 |
| 1.8.10 | write memory | 88 |
| 1.8.11 | write terminal | 88 |

List of Tables

| | | |
|-----|----------------------------------|---|
| 1.1 | VTY Parameter Patterns | 1 |
| 1.2 | VTY port numbers | 1 |

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 sismocom 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

1.1.1 close bsc connection BSC_NR

Command

```
close bsc connection BSC_NR
```

Parameters

close

Close

bsc

A-link

connection

Connection

BSC_NR

Identifier of the BSC

1.1.2 echo .MESSAGE

Command

```
echo .MESSAGE
```

Parameters

echo

Echo a message back to the vty

.MESSAGE

The message to echo

1.1.3 enable

Command

```
enable
```

Parameters

enable

Turn on privileged mode command

1.1.4 exit

Command

```
exit
```

Parameters

exit

Exit current mode and down to previous mode

1.1.5 help

Command

```
help
```

Parameters

help

Description of the interactive help system

1.1.6 list

Command

```
list
```

Parameters

list

Print command list

1.1.7 logging color (0|1)

Command

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

Parameters

logging

Configure log message to this terminal

color

Configure color-printing for log messages

0

Don't use color for printing messages

1

Use color for printing messages

1.1.8 logging disable

Command

```
logging disable
```

Parameters

logging

Configure log message to this terminal

disable

Disables logging to this vty

1.1.9 logging enable

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

Command

```
logging enable
```

Parameters

logging

Configure log message to this terminal

enable

Enables logging to this vty

1.1.10 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 log message to this terminal

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

1.1.11 logging level (all|rll|cc|mm|rr|rsl|nm|mncc|pag|meas|sccp|msc|mgcp|ho|db|ref|gprs|ns|↔

Command

```
logging level (all|rll|cc|mm|rr|rsl|nm|mncc|pag|meas|sccp|msc|mgcp|ho|db|ref|gprs|ns|↔
             bssgp|llc|sndcp|nat|ctrl|smpp|lglobal|llapd|linp|lmux|lmi|lmib|lms) (everything|↔
             debug|info|notice|error|fatal)
```

Parameters

logging

Configure log message to this terminal

level

Set the log level for a specified category

all

Global setting for all subsystems

rl

A-bis Radio Link Layer (RLL)

cc

Layer3 Call Control (CC)

mm

Layer3 Mobility Management (MM)

rr

Layer3 Radio Resource (RR)

rsl

A-bis Radio Signalling Link (RSL)

nm

A-bis Network Management / O&M (NM/OML)

mncc

MNCC API for Call Control application

pag

Paging Subsystem

meas

Radio Measurement Processing

sccp

SCCP Protocol

msc

Mobile Switching Center

mgcp

Media Gateway Control Protocol

ho

Hand-Over

db

Database Layer

ref

Reference Counting

gprs

GPRS Packet Service

ns
GPRS Network Service (NS)

bssgp
GPRS BSS Gateway Protocol (BSSGP)

llc
GPRS Logical Link Control Protocol (LLC)

sndcp
GPRS Sub-Network Dependent Control Protocol (SNDCP)

nat
GSM 08.08 NAT/Multiplexer

ctrl
Control interface

smpp
SMPP interface for external SMS apps

lglobal
Library-internal global log family

llapd
LAPD in libosmogsm

linp
A-bis Input 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)

everything
Log simply everything

debug
Log debug messages and higher levels

info
Log informational messages and higher levels

notice
Log noticable messages and higher levels

error
Log error messages and higher levels

fatal
Log only fatal messages

1.1.12 logging set log mask MASK

Command

```
logging set log mask MASK
```

Parameters

logging

Configure log message to this terminal

set

Decide which categories to output.

log

Log commands

mask

Mask commands

MASK

The logmask to use

1.1.13 logging set-log-mask MASK

Command

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

Parameters

logging

Configure log message to this terminal

set-log-mask

Set the logmask of this logging target

MASK

The logmask to use

1.1.14 logging timestamp (0|1)

Command

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

Parameters

logging

Configure log message to this terminal

timestamp

Configure log message timestamping

0

Don't prefix each log message

1

Prefix each log message with current timestamp

1.1.15 show access-list NAME

Command

```
show access-list NAME
```

Parameters

show

Show running system information

access-list

IMSI access list

NAME

Name of the access list

1.1.16 show alarms

Command

```
show alarms
```

Parameters

show

Show running system information

alarms

Show current logging configuration

1.1.17 show bsc config

Command

```
show bsc config
```

Parameters

show

Show running system information

bsc

Information about BSCs

config

Configuration of BSCs

1.1.18 show bsc connections

Command

```
show bsc connections
```

Parameters

show

Show running system information

bsc

Information about BSCs

connections

All active connections

1.1.19 show bsc mgcp NR

Command

```
show bsc mgcp NR
```

Parameters

show

Show running system information

bsc

Information about BSCs

mgcp

MGCP related status

NR

Identifier of the BSC

1.1.20 show history

Command

```
show history
```

Parameters

show

Show running system information

history

Display the session command history

1.1.21 show imsi-black-list

Command

```
show imsi-black-list
```

Parameters

show

Show running system information

imsi-black-list

IMSI's barred from the network

1.1.22 show logging vty

Command

```
show logging vty
```

Parameters

show

Show running system information

logging

Show current logging configuration

vtty

Show current logging configuration for this vty

1.1.23 show mgcp [stats]

Command

```
show mgcp [stats]
```

Parameters

show

Show running system information

mgcp

Display information about the MGCP Media Gateway

[stats]

Include Statistics

1.1.24 show msc connection

Command

```
show msc connection
```

Parameters

show

Show running system information

msc

MSC related information

connection

Status of the A-link connection

1.1.25 show online-help

Command

```
show online-help
```

Parameters

show

Show running system information

online-help

Online help

1.1.26 show prefix-tree

Command

```
show prefix-tree
```

Parameters

show

Show running system information

prefix-tree

Prefix tree for number rewriting

1.1.27 show sccp connections

Command

```
show sccp connections
```

Parameters

show

Show running system information

sccp

Display information about SCCP

connections

All active connections

1.1.28 show statistics [NR]

Command

```
show statistics [NR]
```

Parameters

show

Show running system information

statistics

Display network statistics

[NR]

Number of the BSC

1.1.29 show statistics-by-lac <0-65535>

Command

```
show statistics-by-lac <0-65535>
```

Parameters

show

Show running system information

statistics-by-lac

Display network statistics by lac

<0-65535>

The lac of the BSC

1.1.30 show ussd-connection

Command

```
show ussd-connection
```

Parameters

show

Show running system information

ussd-connection

USSD connection related information

1.1.31 show version

Command

```
show version
```

Parameters

show

Show running system information

version

Displays program version

1.1.32 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)

1.1.33 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

1.1.34 test regex PATTERN STRING

Command

```
test regex PATTERN STRING
```

Parameters

test

Test utilities

regex

Regex testing

PATTERN

The regexp pattern

STRING

The string to match

1.1.35 who

Command

```
who
```

Parameters

who

Display who is on vty

1.2

1.2.1 close bsc connection BSC_NR

Command

```
close bsc connection BSC_NR
```

Parameters

close

Close

bsc

A-link

connection

Connection

BSC_NR

Identifier of the BSC

1.2.2 configure terminal

Command

```
configure terminal
```

Parameters

configure

Configuration from vty interface

terminal

Configuration terminal

1.2.3 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)

1.2.4 disable

Command

```
disable
```

Parameters

disable

Turn off privileged mode command

1.2.5 echo .MESSAGE

Command

```
echo .MESSAGE
```

Parameters

echo

Echo a message back to the vty

.MESSAGE

The message to echo

1.2.6 exit

Command

```
exit
```

Parameters

exit

Exit current mode and down to previous mode

1.2.7 free-endpoint <0-64> NUMBER

Command

```
free-endpoint <0-64> NUMBER
```

Parameters

free-endpoint

Free the given endpoint

<0-64>

Trunk number

NUMBER

Endpoint number in hex.

1.2.8 help

Command

```
help
```

Parameters

help

Description of the interactive help system

1.2.9 list

Command

```
list
```

Parameters

list

Print command list

1.2.10 logging color (0|1)

Command

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

Parameters

logging

Configure log message to this terminal

color

Configure color-printing for log messages

0

Don't use color for printing messages

1

Use color for printing messages

1.2.11 logging disable

Command

```
logging disable
```

Parameters

logging

Configure log message to this terminal

disable

Disables logging to this vty

1.2.12 logging enable

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

Command

```
logging enable
```

Parameters

logging

Configure log message to this terminal

enable

Enables logging to this vty

1.2.13 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 log message to this terminal

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

1.2.14 logging level (all|rll|cc|mm|rr|rsl|nm|mncc|pag|meas|sccp|msc|mgcp|ho|db|ref|gpr...

Command

```
logging level (all|rll|cc|mm|rr|rsl|nm|mncc|pag|meas|sccp|msc|mgcp|ho|db|ref|gprs|ns|↔
             bssgp|llc|sndcp|nat|ctrl|smpp|lglobal|llapd|linp|lmux|lmi|lmib|lms) (everything|↔
             debug|info|notice|error|fatal)
```

Parameters

logging

Configure log message to this terminal

level

Set the log level for a specified category

all

Global setting for all subsystems

rl

A-bis Radio Link Layer (RLL)

cc

Layer3 Call Control (CC)

mm

Layer3 Mobility Management (MM)

rr

Layer3 Radio Resource (RR)

rsl

A-bis Radio Signalling Link (RSL)

nm

A-bis Network Management / O&M (NM/OML)

mncc

MNCC API for Call Control application

pag

Paging Subsystem

meas

Radio Measurement Processing

sccp

SCCP Protocol

msc

Mobile Switching Center

mgcp

Media Gateway Control Protocol

ho

Hand-Over

db

Database Layer

ref

Reference Counting

gprs

GPRS Packet Service

ns
GPRS Network Service (NS)

bssgp
GPRS BSS Gateway Protocol (BSSGP)

llc
GPRS Logical Link Control Protocol (LLC)

sndcp
GPRS Sub-Network Dependent Control Protocol (SNDCP)

nat
GSM 08.08 NAT/Multiplexer

ctrl
Control interface

smpp
SMPP interface for external SMS apps

lglobal
Library-internal global log family

llapd
LAPD in libosmogsm

linp
A-bis Input 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)

everything
Log simply everything

debug
Log debug messages and higher levels

info
Log informational messages and higher levels

notice
Log noticable messages and higher levels

error
Log error messages and higher levels

fatal
Log only fatal messages

1.2.15 logging set log mask MASK

Command

```
logging set log mask MASK
```

Parameters

logging

Configure log message to this terminal

set

Decide which categories to output.

log

Log commands

mask

Mask commands

MASK

The logmask to use

1.2.16 logging set-log-mask MASK

Command

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

Parameters

logging

Configure log message to this terminal

set-log-mask

Set the logmask of this logging target

MASK

The logmask to use

1.2.17 logging timestamp (0|1)

Command

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

Parameters

logging

Configure log message to this terminal

timestamp

Configure log message timestamping

0

Don't prefix each log message

1

Prefix each log message with current timestamp

1.2.18 loop-endpoint <0-64> NAME (0|1)

Command

```
loop-endpoint <0-64> NAME (0|1)
```

Parameters

loop-endpoint

Loop a given endpoint

<0-64>

Trunk number

NAME

The name in hex of the endpoint

0

Disable the loop

1

Enable the loop

1.2.19 nat-block (block|unblock)

Command

```
nat-block (block|unblock)
```

Parameters

nat-block

Block the NAT for new connections

block

Block

unblock

Unblock

1.2.20 reset-all-endpoints

Command

```
reset-all-endpoints
```

Parameters

reset-all-endpoints

Reset all endpoints

1.2.21 reset-endpoint <0-64> NUMBER

Command

```
reset-endpoint <0-64> NUMBER
```

Parameters

reset-endpoint

Reset the given endpoint

<0-64>

Trunk number

NUMBER

Endpoint number in hex.

1.2.22 set bsc last-used-endpoint <0-999999999> <0-1024>

Command

```
set bsc last-used-endpoint <0-999999999> <0-1024>
```

Parameters

set

Set a value

bsc

Operate on a BSC

last-used-endpoint

Last used endpoint for an assignment

<0-999999999>

BSC configuration number

<0-1024>

Endpoint number used

1.2.23 show access-list NAME

Command

```
show access-list NAME
```

Parameters

show

Show running system information

access-list

IMSI access list

NAME

Name of the access list

1.2.24 show alarms

Command

```
show alarms
```

Parameters

show

Show running system information

alarms

Show current logging configuration

1.2.25 show bsc config

Command

```
show bsc config
```

Parameters

show

Show running system information

bsc

Information about BSCs

config

Configuration of BSCs

1.2.26 show bsc connections

Command

```
show bsc connections
```

Parameters

show

Show running system information

bsc

Information about BSCs

connections

All active connections

1.2.27 show bsc mgcp NR

Command

```
show bsc mgcp NR
```

Parameters

show

Show running system information

bsc

Information about BSCs

mgcp

MGCP related status

NR

Identifier of the BSC

1.2.28 show history

Command

```
show history
```

Parameters

show

Show running system information

history

Display the session command history

1.2.29 show imsi-black-list

Command

```
show imsi-black-list
```

Parameters

show

Show running system information

imsi-black-list

IMSI's barred from the network

1.2.30 show logging vty

Command

```
show logging vty
```

Parameters

show

Show running system information

logging

Show current logging configuration

vtty

Show current logging configuration for this vty

1.2.31 show mgcp [stats]

Command

```
show mgcp [stats]
```

Parameters

show

Show running system information

mgcp

Display information about the MGCP Media Gateway

[stats]

Include Statistics

1.2.32 show msc connection

Command

```
show msc connection
```

Parameters

show

Show running system information

msc

MSC related information

connection

Status of the A-link connection

1.2.33 show online-help

Command

```
show online-help
```

Parameters

show

Show running system information

online-help

Online help

1.2.34 show prefix-tree

Command

```
show prefix-tree
```

Parameters

show

Show running system information

prefix-tree

Prefix tree for number rewriting

1.2.35 show running-config

Command

```
show running-config
```

Parameters

show

Show running system information

running-config

running configuration

1.2.36 show sccp connections

Command

```
show sccp connections
```

Parameters

show

Show running system information

sccp

Display information about SCCP

connections

All active connections

1.2.37 show startup-config

Command

```
show startup-config
```

Parameters

show

Show running system information

startup-config

Contentes of startup configuration

1.2.38 show statistics [NR]

Command

```
show statistics [NR]
```

Parameters

show

Show running system information

statistics

Display network statistics

[NR]

Number of the BSC

1.2.39 show statistics-by-lac <0-65535>

Command

```
show statistics-by-lac <0-65535>
```

Parameters

show

Show running system information

statistics-by-lac

Display network statistics by lac

<0-65535>

The lac of the BSC

1.2.40 show ussd-connection

Command

```
show ussd-connection
```

Parameters

show

Show running system information

ussd-connection

USSD connection related information

1.2.41 show version

Command

```
show version
```

Parameters

show

Show running system information

version

Displays program version

1.2.42 tap-call <0-64> ENDPOINT (bts-in|bts-out|net-in|net-out) A.B.C.D <0-65534>

Command

```
tap-call <0-64> ENDPOINT (bts-in|bts-out|net-in|net-out) A.B.C.D <0-65534>
```

Parameters

tap-call

Forward data on endpoint to a different system

<0-64>

Trunk number

ENDPOINT

The endpoint in hex

bts-in

Forward the data coming from the bts

bts-out

Forward the data coming from the bts leaving to the network

net-in

Forward the data coming from the net

net-out

Forward the data coming from the net leaving to the bts

A.B.C.D

destination IP of the data

<0-65534>

destination port

1.2.43 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)

1.2.44 terminal monitor

Command

```
terminal monitor
```

Parameters

terminal

Set terminal line parameters

monitor

Copy debug output to the current terminal line

1.2.45 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

1.2.46 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

1.2.47 test regex PATTERN STRING

Command

```
test regex PATTERN STRING
```

Parameters

test

Test utilities

regex

Regex testing

PATTERN

The regexp pattern

STRING

The string to match

1.2.48 who

Command

```
who
```

Parameters

who

Display who is on vty

1.2.49 write

Command

```
write
```

Parameters

write

Write running configuration to memory, network, or terminal

1.2.50 write file

Command

```
write file
```

Parameters

write

Write running configuration to memory, network, or terminal

file

Write to configuration file

1.2.51 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)

1.2.52 write terminal

Command

```
write terminal
```

Parameters

write

Write running configuration to memory, network, or terminal

terminal

Write to terminal

1.3

1.3.1 banner motd default

Command

```
banner motd default
```

Parameters

banner

Set banner string

motd

Strings for motd

default

Default string

1.3.2 banner motd file [FILE]

Command

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

Parameters

banner

Set banner

motd

Banner for motd

file

Banner from a file

[FILE]

Filename

1.3.3 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

1.3.4 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

1.3.5 end

Command

```
end
```

Parameters

end

End current mode and change to enable mode.

1.3.6 exit

Command

```
exit
```

Parameters

exit

Exit current mode and down to previous mode

1.3.7 help

Command

```
help
```

Parameters

help

Description of the interactive help system

1.3.8 hostname WORD

Command

```
hostname WORD
```

Parameters

hostname

Set system's network name

WORD

This system's network name

1.3.9 line vty

Command

```
line vty
```

Parameters

line

Configure a terminal line

vty

Virtual terminal

1.3.10 list

Command

```
list
```

Parameters

list

Print command list

1.3.11 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

1.3.12 log file .FILENAME

Command

```
log file .FILENAME
```

Parameters

log

Configure logging sub-system

file

Logging to text file

.FILENAME

Filename

1.3.13 log stderr

Command

```
log stderr
```

Parameters

log

Configure logging sub-system

stderr

Logging via STDERR of the process

1.3.14 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

1.3.15 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

1.3.16 mgcp

Command

```
mgcp
```

Parameters

mgcp
Configure the MGCP

1.3.17 nat

Command

```
nat
```

Parameters

nat
Configure the NAT

1.3.18 no banner motd

Command

```
no banner motd
```

Parameters

no
Negate a command or set its defaults
banner
Set banner string
motd
Strings for motd

1.3.19 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

1.3.20 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

1.3.21 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

1.3.22 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

1.3.23 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

1.3.24 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

1.3.25 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

1.3.26 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)

1.3.27 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

1.3.28 password LINE

Command

```
password LINE
```

Parameters

password

Assign the terminal connection password

LINE

The UNENCRYPTED (cleartext) line password

1.3.29 service advanced-vty

Command

```
service advanced-vty
```

Parameters

service

Set up miscellaneous service

advanced-vty

Enable advanced mode vty interface

1.3.30 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)

1.3.31 show history

Command

```
show history
```

Parameters

show

Show running system information

history

Display the session command history

1.3.32 show running-config

Command

```
show running-config
```

Parameters

show

Show running system information

running-config

running configuration

1.3.33 write

Command

```
write
```

Parameters

write

Write running configuration to memory, network, or terminal

1.3.34 write file

Command

```
write file
```

Parameters

write

Write running configuration to memory, network, or terminal

file

Write to configuration file

1.3.35 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)

1.3.36 write terminal

Command

```
write terminal
```

Parameters

write

Write running configuration to memory, network, or terminal

terminal

Write to terminal

1.4

1.4.1 end

Command

```
end
```

Parameters

end

End current mode and change to enable mode.

1.4.2 exit

Command

```
exit
```

Parameters

exit

Exit current mode and down to previous mode

1.4.3 help

Command

```
help
```

Parameters

help

Description of the interactive help system

1.4.4 list

Command

```
list
```

Parameters

list

Print command list

1.4.5 logging color (0|1)

Command

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

Parameters

logging

Configure log message to this terminal

color

Configure color-printing for log messages

0

Don't use color for printing messages

1

Use color for printing messages

1.4.6 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 log message to this terminal

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

1.4.7 logging level (all|rll|cc|mm|rr|rsl|nm|mncc|pag|meas|sccp|msc|mgcp|ho|db|ref|gprs|ns|↔ bssgp|llc|sndcp|nat|ctrl|smpp|lglobal|llapd|linp|lmux|lmi|lmib|lsms) (everything|↔ debug|info|notice|error|fatal)

Command

```
logging level (all|rll|cc|mm|rr|rsl|nm|mncc|pag|meas|sccp|msc|mgcp|ho|db|ref|gprs|ns|↔  
bssgp|llc|sndcp|nat|ctrl|smpp|lglobal|llapd|linp|lmux|lmi|lmib|lsms) (everything|↔  
debug|info|notice|error|fatal)
```

Parameters

logging

Configure log message to this terminal

level

Set the log level for a specified category

all

Global setting for all subsystems

rll

A-bis Radio Link Layer (RLL)

cc

Layer3 Call Control (CC)

mm
Layer3 Mobility Management (MM)

rr
Layer3 Radio Resource (RR)

rsl
A-bis Radio Siganlling Link (RSL)

nm
A-bis Network Management / O&M (NM/OML)

mncc
MNCC API for Call Control application

pag
Paging Subsystem

meas
Radio Measurement Processing

sccp
SCCP Protocol

msc
Mobile Switching Center

mgcp
Media Gateway Control Protocol

ho
Hand-Over

db
Database Layer

ref
Reference Counting

gprs
GPRS Packet Service

ns
GPRS Network Service (NS)

bssgp
GPRS BSS Gateway Protocol (BSSGP)

llc
GPRS Logical Link Control Protocol (LLC)

sndcp
GPRS Sub-Network Dependent Control Protocol (SNDCP)

nat
GSM 08.08 NAT/Multiplexer

| | |
|------------|--|
| ctrl | Control interface |
| smpp | SMPP interface for external SMS apps |
| lglobal | Library-internal global log family |
| llapd | LAPD in libosmogsm |
| linp | A-bis Input 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) |
| everything | Log simply everything |
| debug | Log debug messages and higher levels |
| info | Log informational messages and higher levels |
| notice | Log noticable messages and higher levels |
| error | Log error messages and higher levels |
| fatal | Log only fatal messages |

1.4.8 logging timestamp (0|1)

Command

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

Parameters

logging

Configure log message to this terminal

timestamp

Configure log message timestamping

0

Don't prefix each log message

1

Prefix each log message with current timestamp

1.4.9 show running-config

Command

```
show running-config
```

Parameters

show

Show running system information

running-config

running configuration

1.4.10 write

Command

```
write
```

Parameters

write

Write running configuration to memory, network, or terminal

1.4.11 write file

Command

```
write file
```

Parameters

write

Write running configuration to memory, network, or terminal

file

Write to configuration file

1.4.12 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)

1.4.13 write terminal

Command

```
write terminal
```

Parameters

write

Write running configuration to memory, network, or terminal

terminal

Write to terminal

1.5 MGCP Commands

This node allows to configure global MGCP settings. These include the various port numbers.

1.5.1 bind early (0|1)

Command

```
bind early (0|1)
```

Parameters

bind

Listen/Bind related socket option

early

Bind local ports on start up

0

Bind on demand

1

Bind on startup

1.5.2 bind ip A.B.C.D

Command

```
bind ip A.B.C.D
```

Parameters

bind

Listen/Bind related socket option

ip

IP information

A.B.C.D

IPv4 Address to bind to

1.5.3 bind port <0-65534>

Command

```
bind port <0-65534>
```

Parameters

bind

Listen/Bind related socket option

port

Port information

<0-65534>

UDP port to listen for MGCP messages

1.5.4 bts ip A.B.C.D

Command

```
bts ip A.B.C.D
```

Parameters

bts

BTS Audio source/destination options

ip

IP information

A.B.C.D

IPv4 Address of the BTS

1.5.5 call agent ip A.B.C.D

Command

```
call agent ip A.B.C.D
```

Parameters

call

Callagent information

agent

Callagent information

ip

IP information

A.B.C.D

IPv4 Address of the callagent

1.5.6 call-agent ip A.B.C.D

Command

```
call-agent ip A.B.C.D
```

Parameters

call-agent

Callagent information

ip

IP information

A.B.C.D

IPv4 Address of the callagent

1.5.7 end

Command

```
end
```

Parameters

end

End current mode and change to enable mode.

1.5.8 exit

Command

```
exit
```

Parameters

exit

Exit current mode and down to previous mode

1.5.9 help

Command

```
help
```

Parameters

help

Description of the interactive help system

1.5.10 list

Command

```
list
```

Parameters

list

Print command list

1.5.11 local ip A.B.C.D

Command

```
local ip A.B.C.D
```

Parameters

local

Local options for the SDP record

ip

IP information

A.B.C.D

IPv4 Address to use in SDP record

1.5.12 loop (0|1)

Command

```
loop (0|1)
```

Parameters

loop

Loop audio for all endpoints on main trunk

0

Don't Loop

1

Loop

1.5.13 no rtcp-omit

Command

```
no rtcp-omit
```

Parameters

no

Negate a command or set its defaults

rtcp-omit

Drop RTCP packets in both directions

1.5.14 no rtp keep-alive

Command

```
no rtp keep-alive
```

Parameters

no

Negate a command or set its defaults

rtp

RTP configuration

keep-alive

Send dummy UDP packet to net RTP destination

1.5.15 no rtp-patch

Command

```
no rtp-patch
```

Parameters

no

Negate a command or set its defaults

rtp-patch

Modify RTP packet header in both directions

1.5.16 no rtp-patch ssrc

Command

```
no rtp-patch ssrc
```

Parameters

no

Negate a command or set its defaults

rtp-patch

Modify RTP packet header in both directions

ssrc

Force a fixed SSRC

1.5.17 no rtp-patch timestamp

Command

```
no rtp-patch timestamp
```

Parameters

no

Negate a command or set its defaults

rtp-patch

Modify RTP packet header in both directions

timestamp

Adjust RTP timestamp

1.5.18 no sdp audio-payload send-ptime

Command

```
no sdp audio-payload send-ptime
```

Parameters

no

Negate a command or set its defaults

sdp

SDP File related options

audio-payload

Audio payload options

send-ptime

Send SDP ptime (packet duration) attribute

1.5.19 no transcoder-mgw

Command

```
no transcoder-mgw
```

Parameters

no

Negate a command or set its defaults

transcoder-mgw

Disable the transcoding

1.5.20 number endpoints <0-65534>

Command

```
number endpoints <0-65534>
```

Parameters

number

Number options

endpoints

Endpoints available

<0-65534>

Number endpoints

1.5.21 rtcp-omit

Command

```
rtcp-omit
```

Parameters

rtcp-omit

Drop RTCP packets in both directions

1.5.22 rtp base <0-65534>

Command

```
rtp base <0-65534>
```

Parameters

rtp

RTP configuration

base

First UDP port allocated for the BTS side

<0-65534>

UDP Port number

1.5.23 rtp bts-base <0-65534>

Command

```
rtp bts-base <0-65534>
```

Parameters

rtp

RTP configuration

bts-base

First UDP port allocated for the BTS side

<0-65534>

UDP Port number

1.5.24 rtp bts-range <0-65534> <0-65534>

Command

```
rtp bts-range <0-65534> <0-65534>
```

Parameters

rtp

RTP configuration

bts-range

Range of ports to use for the BTS side

<0-65534>

Start of the range of ports

<0-65534>

End of the range of ports

1.5.25 rtp ip-dscp <0-255>

Command

```
rtp ip-dscp <0-255>
```

Parameters

rtp

RTP configuration

ip-dscp

Apply IP_TOS to the audio stream

<0-255>

The DSCP value

1.5.26 rtp ip-tos <0-255>

Command

```
rtp ip-tos <0-255>
```

Parameters

rtp

RTP configuration

ip-tos

Apply IP_TOS to the audio stream

<0-255>

The DSCP value

1.5.27 rtp keep-alive <1-120>

Command

```
rtp keep-alive <1-120>
```

Parameters

rtp

RTP configuration

keep-alive

Send dummy UDP packet to net RTP destination

<1-120>

Keep alive interval in secs

1.5.28 rtp keep-alive once

Command

```
rtp keep-alive once
```

Parameters

rtp

RTP configuration

keep-alive

Send dummy UDP packet to net RTP destination

once

Send dummy packet only once after CRCX/MDCX

1.5.29 rtp net-base <0-65534>

Command

```
rtp net-base <0-65534>
```

Parameters

rtp

RTP configuration

net-base

First UDP port allocated for the NET side

<0-65534>

UDP Port number

1.5.30 rtp net-range <0-65534> <0-65534>

Command

```
rtp net-range <0-65534> <0-65534>
```

Parameters

rtp

RTP configuration

net-range

Range of ports to use for the NET side

<0-65534>

Start of the range of ports

<0-65534>

End of the range of ports

1.5.31 rtp transcoder-base <0-65534>

Command

```
rtp transcoder-base <0-65534>
```

Parameters

rtp

RTP configuration

transcoder-base

First UDP port allocated for the Transcoder side

<0-65534>

UDP Port number

1.5.32 rtp transcoder-range <0-65534> <0-65534>

Command

```
rtp transcoder-range <0-65534> <0-65534>
```

Parameters

rtp

RTP configuration

transcoder-range

Range of ports to use for the Transcoder

<0-65534>

Start of the range of ports

<0-65534>

End of the range of ports

1.5.33 rtp-patch ssrc

Command

```
rtp-patch ssrc
```

Parameters

rtp-patch

Modify RTP packet header in both directions

ssrc

Force a fixed SSRC

1.5.34 rtp-patch timestamp

Command

```
rtp-patch timestamp
```

Parameters

rtp-patch

Modify RTP packet header in both directions

timestamp

Adjust RTP timestamp

1.5.35 sdp audio fntp-extra .NAME

Command

```
sdp audio fntp-extra .NAME
```

Parameters

sdp

Add extra fntp for the SDP file

audio

Audio

fntp-extra

Fntp-extra

.NAME

Extra Information

1.5.36 sdp audio payload name NAME

Command

```
sdp audio payload name NAME
```

Parameters

sdp

SDP File related options

audio

Audio payload options

payload

Audio payload options

name

Name

NAME

Payload name

1.5.37 sdp audio payload number <1-255>

Command

```
sdp audio payload number <1-255>
```

Parameters

sdp

SDP File related options

audio

Audio payload options

payload

Audio payload options

number

Number

<1-255>

Payload number

1.5.38 sdp audio-payload name NAME

Command

```
sdp audio-payload name NAME
```

Parameters

sdp

SDP File related options

audio-payload

Audio payload options

name

Name

NAME

Payload name

1.5.39 sdp audio-payload number <1-255>

Command

```
sdp audio-payload number <1-255>
```

Parameters

sdp

SDP File related options

audio-payload

Audio payload options

number

Number

<1-255>

Payload number

1.5.40 sdp audio-payload send-ptime

Command

```
sdp audio-payload send-ptime
```

Parameters

sdp

SDP File related options

audio-payload

Audio payload options

send-ptime

Send SDP ptime (packet duration) attribute

1.5.41 show running-config

Command

```
show running-config
```

Parameters

show

Show running system information

running-config

running configuration

1.5.42 transcoder-mgw A.B.C.D

Command

```
transcoder-mgw A.B.C.D
```

Parameters

transcoder-mgw

Use a MGW to detranscoder RTP

A.B.C.D

The IP address of the MGW

1.5.43 transcoder-remote-base <0-65534>

Command

```
transcoder-remote-base <0-65534>
```

Parameters

transcoder-remote-base

Set the base port for the transcoder

<0-65534>

The RTP base port on the transcoder

1.5.44 trunk <1-64>

Command

```
trunk <1-64>
```

Parameters

trunk

Configure a SS7 trunk

<1-64>

Trunk Nr

1.5.45 write

Command

```
write
```

Parameters

write

Write running configuration to memory, network, or terminal

1.5.46 write file

Command

```
write file
```

Parameters

write

Write running configuration to memory, network, or terminal

file

Write to configuration file

1.5.47 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)

1.5.48 write terminal

Command

```
write terminal
```

Parameters

write

Write running configuration to memory, network, or terminal

terminal

Write to terminal

1.6 NAT Commands

This node allows to configure the global NAT settings. These include the destination address of the MSC, the filter and rewriting rules to use.

1.6.1 access-list NAME imsi-allow [REGEXP]

Command

```
access-list NAME imsi-allow [REGEXP]
```

Parameters

access-list

Access list commands

NAME

Name of the access list

imsi-allow

Add allowed IMSI to the list

[REGEXP]

Regexp for IMSIs

1.6.2 access-list NAME imsi-deny [REGEXP] (<0-256>) (<0-256>)

Command

```
access-list NAME imsi-deny [REGEXP] (<0-256>) (<0-256>)
```

Parameters

access-list

Access list commands

NAME

Name of the access list

imsi-deny

Add denied IMSI to the list

[REGEXP]

Regexp for IMSIs

<0-256>

CM Service Reject reason

<0-256>

LU Reject reason

1.6.3 access-list-name NAME

Command

```
access-list-name NAME
```

Parameters

access-list-name

Set the name of the access list to use.

NAME

The name of the to be used access list.

1.6.4 bsc BSC_NR

Command

```
bsc BSC_NR
```

Parameters

bsc

BSC configuration

BSC_NR

Identifier of the BSC

1.6.5 end

Command

```
end
```

Parameters

end

End current mode and change to enable mode.

1.6.6 exit

Command

```
exit
```

Parameters

exit

Exit current mode and down to previous mode

1.6.7 help

Command

```
help
```

Parameters

help

Description of the interactive help system

1.6.8 imsi-black-list-file-name NAME

Command

```
imsi-black-list-file-name NAME
```

Parameters

imsi-black-list-file-name

IMSI black listing

NAME

Filename IMSI and reject-cause

1.6.9 ip-dscp <0-255>

Command

```
ip-dscp <0-255>
```

Parameters

ip-dscp

Set the IP DSCP for the BSCs to use

<0-255>

Set the IP_TOS attribute

1.6.10 ip-tos <0-255>

Command

```
ip-tos <0-255>
```

Parameters

ip-tos

Use ip-dscp in the future.

<0-255>

Set the DSCP

1.6.11 list

Command

```
list
```

Parameters

list

Print command list

1.6.12 msc ip A.B.C.D

Command

```
msc ip A.B.C.D
```

Parameters

msc

MSC related configuration

ip

Configure the IP address

A.B.C.D

IP information

1.6.13 msc port <1-65500>

Command

```
msc port <1-65500>
```

Parameters

msc

MSC related configuration

port

Configure the port

<1-65500>

Port number

1.6.14 no access-list NAME

Command

```
no access-list NAME
```

Parameters

no

Negate a command or set its defaults

access-list

Remove an access-list by name

NAME

The access-list to remove

1.6.15 no access-list-name

Command

```
no access-list-name
```

Parameters

no

Negate a command or set its defaults

access-list-name

Remove the access list from the NAT.

1.6.16 no imsi-black-list-file-name

Command

```
no imsi-black-list-file-name
```

Parameters

no

Negate a command or set its defaults

imsi-black-list-file-name

Remove the imsi-black-list

1.6.17 no number-rewrite

Command

```
no number-rewrite
```

Parameters

no

Negate a command or set its defaults

number-rewrite

Set the file with rewriting rules.

1.6.18 no number-rewrite-post

Command

```
no number-rewrite-post
```

Parameters

no

Negate a command or set its defaults

number-rewrite-post

Set the file with post-routing rewriting rules.

1.6.19 no paging-group <0-1000>

Command

```
no paging-group <0-1000>
```

Parameters

no

Negate a command or set its defaults

paging-group

Delete paging-group

<0-1000>

Paging-group number

1.6.20 no prefix-tree

Command

```
no prefix-tree
```

Parameters

no

Negate a command or set its defaults

prefix-tree

Prefix tree for number rewriting

1.6.21 no sms-clear-tp-srr

Command

```
no sms-clear-tp-srr
```

Parameters

no

Negate a command or set its defaults

sms-clear-tp-srr

SMS TPDU Sender Report Request clearing

1.6.22 no sms-number-rewrite

Command

```
no sms-number-rewrite
```

Parameters

no

Negate a command or set its defaults

sms-number-rewrite

Disable SMS TP-DA rewriting

1.6.23 number-rewrite FILENAME

Command

```
number-rewrite FILENAME
```

Parameters

number-rewrite

Set the file with rewriting rules.

FILENAME

Filename

1.6.24 number-rewrite-post FILENAME

Command

```
number-rewrite-post FILENAME
```

Parameters

number-rewrite-post

Set the file with post-routing rewriting rules.

FILENAME

Filename

1.6.25 paging-group <0-1000>

Command

```
paging-group <0-1000>
```

Parameters

paging-group

Create a Paging Group

<0-1000>

Number of the Group

1.6.26 prefix-tree FILENAME

Command

```
prefix-tree FILENAME
```

Parameters

prefix-tree

Prefix tree for number rewriting

FILENAME

File to load

1.6.27 rewrite-smsc addr FILENAME

Command

```
rewrite-smsc addr FILENAME
```

Parameters

rewrite-smsc

SMSC Rewriting

addr

The SMSC Address to match and replace in RP-DATA

FILENAME

File with rules for the SMSC Address replacing

1.6.28 rewrite-smsc tp-dest-match FILENAME

Command

```
rewrite-smsc tp-dest-match FILENAME
```

Parameters

rewrite-smsc

SMSC Rewriting

tp-dest-match

Match TP-Destination of a SMS.

FILENAME

File with rules for matching MSISDN and TP-DEST

1.6.29 show running-config

Command

```
show running-config
```

Parameters

show

Show running system information

running-config

running configuration

1.6.30 sms-clear-tp-srr FILENAME

Command

```
sms-clear-tp-srr FILENAME
```

Parameters

sms-clear-tp-srr

SMS TPDU Sender Report Request clearing

FILENAME

Files with rules for matching MSISDN

1.6.31 sms-number-rewrite FILENAME

Command

```
sms-number-rewrite FILENAME
```

Parameters

sms-number-rewrite

SMS TP-DA Number rewriting

FILENAME

Files with rules for matching MSISDN

1.6.32 timeout auth <1-256>

Command

```
timeout auth <1-256>
```

Parameters

timeout

Timeout configuration

auth

Authentication timeout

<1-256>

Timeout in seconds

1.6.33 timeout ping NR

Command

```
timeout ping NR
```

Parameters

timeout

Timeout configuration

ping

Time between two pings

NR

Timeout in seconds

1.6.34 timeout pong NR

Command

```
timeout pong NR
```

Parameters

timeout

Timeout configuration

pong

Waiting for pong timeout

NR

Timeout in seconds

1.6.35 token TOKEN

Command

```
token TOKEN
```

Parameters

token

Authentication token configuration

TOKEN

Token of the BSC, currently transferred in cleartext

1.6.36 use-msc-ipa-for-mgcp

Command

```
use-msc-ipa-for-mgcp
```

Parameters

use-msc-ipa-for-mgcp

This needs to be set at start. Handle MGCP messages through the IPA protocol and not through the UDP socket.

1.6.37 ussd-list-name NAME

Command

```
ussd-list-name NAME
```

Parameters

ussd-list-name

Set the name of the access list to check for IMSIs for USSD message

NAME

The name of the access list for HLR USSD handling

1.6.38 ussd-local-ip A.B.C.D

Command

```
ussd-local-ip A.B.C.D
```

Parameters

ussd-local-ip

Set the IP to listen for the USSD Provider

A.B.C.D

IP Address

1.6.39 ussd-query REGEXP

Command

```
ussd-query REGEXP
```

Parameters

ussd-query

Set the USSD query to match with the ussd-list-name

REGEXP

The query to match

1.6.40 ussd-token TOKEN

Command

```
ussd-token TOKEN
```

Parameters

ussd-token

Set the token used to identify the USSD module

TOKEN

Secret key

1.6.41 write

Command

```
write
```

Parameters

write

Write running configuration to memory, network, or terminal

1.6.42 write file

Command

```
write file
```

Parameters

write

Write running configuration to memory, network, or terminal

file

Write to configuration file

1.6.43 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)

1.6.44 write terminal

Command

```
write terminal
```

Parameters

write

Write running configuration to memory, network, or terminal

terminal

Write to terminal

1.7 BSC Commands

This node allows to configure a BSC. A BSC has a list of LACs, an access token associated to it.

1.7.1 access-list-name NAME

Command

```
access-list-name NAME
```

Parameters

access-list-name

Set the name of the access list to use.

NAME

The name of the to be used access list.

1.7.2 description DESC

Command

```
description DESC
```

Parameters

description

Provide a description for the given BSC.

DESC

Description

1.7.3 end

Command

```
end
```

Parameters

end

End current mode and change to enable mode.

1.7.4 exit

Command

```
exit
```

Parameters

exit

Exit current mode and down to previous mode

1.7.5 help

Command

```
help
```

Parameters

help

Description of the interactive help system

1.7.6 list

Command

```
list
```

Parameters

list

Print command list

1.7.7 location_area_code <0-65535>

Command

```
location_area_code <0-65535>
```

Parameters

location_area_code

Add the Location Area Code (LAC) of this BSC

<0-65535>

LAC

1.7.8 max-endpoints <1-1024>

Command

```
max-endpoints <1-1024>
```

Parameters

max-endpoints

Highest endpoint to use (exclusively)

<1-1024>

Number of ports

1.7.9 no access-list-name

Command

```
no access-list-name
```

Parameters

no

Negate a command or set its defaults

access-list-name

Do not use an access-list for the BSC.

1.7.10 no location_area_code <0-65535>

Command

```
no location_area_code <0-65535>
```

Parameters

no

Negate a command or set its defaults

location_area_code

Remove the Location Area Code (LAC) of this BSC

<0-65535>

LAC

1.7.11 no paging group

Command

```
no paging group
```

Parameters

no

Negate a command or set its defaults

paging

Paging

group

Disable the usage of a paging group.

1.7.12 paging forbidden (0|1)

Command

```
paging forbidden (0|1)
```

Parameters

paging

Paging

forbidden

Forbid sending PAGING REQUESTS to the BSC.

0

Do not forbid

1

Forbid

1.7.13 paging group <0-1000>

Command

```
paging group <0-1000>
```

Parameters

paging

Paging

group

Use a paging group

<0-1000>

Paging Group to use

1.7.14 paging-group <0-1000>

Command

```
paging-group <0-1000>
```

Parameters

paging-group

Use a paging group

<0-1000>

Paging Group to use

1.7.15 show running-config

Command

```
show running-config
```

Parameters

show

Show running system information

running-config

running configuration

1.7.16 token TOKEN

Command

```
token TOKEN
```

Parameters

token

Authentication token configuration

TOKEN

Token of the BSC, currently transferred in cleartext

1.7.17 write

Command

```
write
```

Parameters

write

Write running configuration to memory, network, or terminal

1.7.18 write file

Command

```
write file
```

Parameters

write

Write running configuration to memory, network, or terminal

file

Write to configuration file

1.7.19 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)

1.7.20 write terminal

Command

```
write terminal
```

Parameters

write

Write running configuration to memory, network, or terminal

terminal

Write to terminal

1.8 Paging Group Commands

This node allows to configure a Paging Group. A Paging Group holds the LACs of several destinations and a BSC can refer to a Paging Group. This way several BSCs can receive the paging for a shared LAC.

1.8.1 end

Command

```
end
```

Parameters

end

End current mode and change to enable mode.

1.8.2 exit

Command

```
exit
```

Parameters

exit

Exit current mode and down to previous mode

1.8.3 help

Command

```
help
```

Parameters

help

Description of the interactive help system

1.8.4 list

Command

```
list
```

Parameters

list

Print command list

1.8.5 location_area_code <0-65535>

Command

```
location_area_code <0-65535>
```

Parameters

location_area_code

Add the Location Area Code (LAC)

<0-65535>

LAC

1.8.6 no location_area_code <0-65535>

Command

```
no location_area_code <0-65535>
```

Parameters

no

Negate a command or set its defaults

location_area_code

Remove the Location Area Code (LAC)

<0-65535>

LAC

1.8.7 show running-config

Command

```
show running-config
```

Parameters

show

Show running system information

running-config

running configuration

1.8.8 write

Command

```
write
```

Parameters

write

Write running configuration to memory, network, or terminal

1.8.9 write file

Command

```
write file
```

Parameters

write

Write running configuration to memory, network, or terminal

file

Write to configuration file

1.8.10 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)

1.8.11 write terminal

Command

```
write terminal
```

Parameters

write

Write running configuration to memory, network, or terminal

terminal

Write to terminal