

## **OsmoBSCNAT VTY Reference**

Copyright © 2012-2014

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

<b>COLLABORATORS</b>
----------------------

	<i>TITLE :</i> OsmoBSCNAT VTY Reference		
<i>ACTION</i>	<i>NAME</i>	<i>DATE</i>	<i>SIGNATURE</i>
WRITTEN BY		July 3, 2024	

<b>REVISION HISTORY</b>
-------------------------

NUMBER	DATE	DESCRIPTION	NAME
DRAFT 1.4.2-9-g2b80d	2023-Mar-07	Automatically Generated VTY Reference	hf

# Contents

<b>1</b>	<b>VTY reference</b>	<b>1</b>
1.1	Common Commands	1
1.1.1	end	2
1.1.2	exit	2
1.1.3	help	2
1.1.4	list	2
1.1.5	show running-config	3
1.1.6	write	3
1.1.7	write file	3
1.1.8	write memory	3
1.1.9	write terminal	4
1.2	view	4
1.2.1	close bsc connection BSC_NR	4
1.2.2	enable	4
1.2.3	logging color (0 1)	5
1.2.4	logging disable	5
1.2.5	logging enable	5
1.2.6	logging filter all (0 1)	6
1.2.7	logging level (rllcclmm rr rs lnm mncc pag meas sccp msc mhcpl holdb refl gprs ns...	6
1.2.8	logging level force-all (debug info notice error fatal)	9
1.2.9	logging level set-all (debug info notice error fatal)	10
1.2.10	logging print category (0 1)	11
1.2.11	logging print category-hex (0 1)	11
1.2.12	logging print extended-timestamp (0 1)	12
1.2.13	logging print file (0 1 basename) [last]	12
1.2.14	logging print level (0 1)	13
1.2.15	logging set-log-mask MASK	13
1.2.16	logging timestamp (0 1)	14
1.2.17	no logging level force-all	14
1.2.18	show access-list NAME	14

1.2.19	show alarms	15
1.2.20	show asciidoc counters	15
1.2.21	show bsc connections	15
1.2.22	show bsc mgcp NR	16
1.2.23	show bsc status (nr token lac all) [IDENT]	16
1.2.24	show bscs-config	17
1.2.25	show history	17
1.2.26	show imsi-black-list	17
1.2.27	show logging vty	18
1.2.28	show mgcp [stats]	18
1.2.29	show msc connection	18
1.2.30	show nat num-bscs-configured	19
1.2.31	show online-help	19
1.2.32	show prefix-tree	19
1.2.33	show rate-counters	20
1.2.34	show sccp connections	20
1.2.35	show stats	20
1.2.36	show stats level (global peer subscriber)	21
1.2.37	show ussd-connection	21
1.2.38	show version	21
1.2.39	terminal length <0-512>	22
1.2.40	terminal no length	22
1.2.41	test regex PATTERN STRING	22
1.2.42	who	23
1.3	enable	23
1.3.1	close bsc connection BSC_NR	23
1.3.2	configure terminal	23
1.3.3	copy running-config startup-config	24
1.3.4	disable	24
1.3.5	free-endpoint <0-64> NUMBER	24
1.3.6	logging color (0 1)	25
1.3.7	logging disable	25
1.3.8	logging enable	25
1.3.9	logging filter all (0 1)	26
1.3.10	logging level (rll ccl mml rrl rs ln m mn cc pag meas sccp msc mgcp holdb refl gprs ns...	26
1.3.11	logging level force-all (debug info notice error fatal)	29
1.3.12	logging level set-all (debug info notice error fatal)	30
1.3.13	logging print category (0 1)	31
1.3.14	logging print category-hex (0 1)	31

1.3.15	logging print extended-timestamp (0 1)	32
1.3.16	logging print file (0 1 basename) [last]	32
1.3.17	logging print level (0 1)	33
1.3.18	logging set-log-mask MASK	33
1.3.19	logging timestamp (0 1)	34
1.3.20	loop-endpoint <0-64> NAME (0 1)	34
1.3.21	nat-block (block unblock)	35
1.3.22	no logging level force-all	35
1.3.23	reset-all-endpoints	35
1.3.24	reset-endpoint <0-64> NUMBER	36
1.3.25	set bsc last-used-endpoint <0-999999999> <0-1024>	36
1.3.26	show access-list NAME	36
1.3.27	show alarms	37
1.3.28	show asciidoc counters	37
1.3.29	show bsc connections	37
1.3.30	show bsc mgcp NR	38
1.3.31	show bsc status (nr token lac all) [IDENT]	38
1.3.32	show bscs-config	39
1.3.33	show history	39
1.3.34	show imsi-black-list	39
1.3.35	show logging vty	40
1.3.36	show mgcp [stats]	40
1.3.37	show msc connection	40
1.3.38	show nat num-bscs-configured	41
1.3.39	show online-help	41
1.3.40	show prefix-tree	41
1.3.41	show rate-counters	42
1.3.42	show sccp connections	42
1.3.43	show startup-config	42
1.3.44	show stats	43
1.3.45	show stats level (global peer subscriber)	43
1.3.46	show ussd-connection	43
1.3.47	show version	44
1.3.48	tap-call <0-64> ENDPOINT (bts-in bts-out net-in net-out) A.B.C.D <0-65534>	44
1.3.49	terminal length <0-512>	45
1.3.50	terminal monitor	45
1.3.51	terminal no length	45
1.3.52	terminal no monitor	46
1.3.53	test regex PATTERN STRING	46

1.3.54	who . . . . .	46
1.4	config . . . . .	47
1.4.1	banner motd default . . . . .	47
1.4.2	banner motd file [FILE] . . . . .	47
1.4.3	ctrl . . . . .	47
1.4.4	enable password (8l) WORD . . . . .	48
1.4.5	enable password LINE . . . . .	48
1.4.6	hostname WORD . . . . .	48
1.4.7	line vty . . . . .	49
1.4.8	log alarms <2-32700> . . . . .	49
1.4.9	log file .FILENAME . . . . .	49
1.4.10	log gsmmap [HOSTNAME] . . . . .	50
1.4.11	log stderr . . . . .	50
1.4.12	log syslog (authpriv cron daemon ftp lpr mail news user uucp) . . . . .	50
1.4.13	log syslog local <0-7> . . . . .	51
1.4.14	mgcp . . . . .	51
1.4.15	nat . . . . .	52
1.4.16	no banner motd . . . . .	52
1.4.17	no enable password . . . . .	52
1.4.18	no hostname [HOSTNAME] . . . . .	53
1.4.19	no log alarms . . . . .	53
1.4.20	no log file .FILENAME . . . . .	53
1.4.21	no log stderr . . . . .	54
1.4.22	no log syslog . . . . .	54
1.4.23	no service advanced-vty . . . . .	54
1.4.24	no service terminal-length [<0-512>] . . . . .	55
1.4.25	no stats reporter log . . . . .	55
1.4.26	no stats reporter statsd . . . . .	55
1.4.27	password (8l) WORD . . . . .	56
1.4.28	password LINE . . . . .	56
1.4.29	service advanced-vty . . . . .	57
1.4.30	service terminal-length <0-512> . . . . .	57
1.4.31	show history . . . . .	57
1.4.32	stats interval <1-65535> . . . . .	58
1.4.33	stats reporter log . . . . .	58
1.4.34	stats reporter statsd . . . . .	58
1.5	config-log . . . . .	59
1.5.1	logging color (0l1) . . . . .	59
1.5.2	logging filter all (0l1) . . . . .	59

1.5.3	logging level (rlllclmmllrrllrsllnmllmncc paglmeaslsccl msc mngcplholdblreflgprslns...	60
1.5.4	logging level force-all (debug info notice error fatal)	63
1.5.5	logging level set-all (debug info notice error fatal)	63
1.5.6	logging print category (0 1)	64
1.5.7	logging print category-hex (0 1)	64
1.5.8	logging print extended-timestamp (0 1)	65
1.5.9	logging print file (0 1 basename) [last]	65
1.5.10	logging print level (0 1)	66
1.5.11	logging timestamp (0 1)	66
1.5.12	no logging level force-all	67
1.6	config-stats	67
1.6.1	disable	67
1.6.2	enable	67
1.6.3	level (global peer subscriber)	68
1.6.4	local-ip ADDR	68
1.6.5	mtu <100-65535>	68
1.6.6	no local-ip	69
1.6.7	no mtu	69
1.6.8	no prefix	69
1.6.9	prefix PREFIX	70
1.6.10	remote-ip ADDR	70
1.6.11	remote-port <1-65535>	70
1.7	config-line	71
1.7.1	bind A.B.C.D [<0-65535>]	71
1.7.2	login	71
1.7.3	no login	71
1.8	config-ctrl	72
1.8.1	bind A.B.C.D	72
1.9	config-mgcp	72
1.9.1	allow-transcoding	72
1.9.2	bind early (0 1)	72
1.9.3	bind ip A.B.C.D	73
1.9.4	bind port <0-65534>	73
1.9.5	bts ip A.B.C.D	73
1.9.6	bts-jitter-buffer	74
1.9.7	bts-jitter-buffer-delay-max <1-65535>	74
1.9.8	bts-jitter-buffer-delay-min <1-65535>	74
1.9.9	call-agent ip A.B.C.D	75
1.9.10	force-realloc (0 1)	75



1.9.11	local ip A.B.C.D . . . . .	75
1.9.12	loop (0l1) . . . . .	76
1.9.13	no allow-transcoding . . . . .	76
1.9.14	no bts-jitter-buffer . . . . .	76
1.9.15	no rtcp-omit . . . . .	77
1.9.16	no rtp bts-bind-ip . . . . .	77
1.9.17	no rtp force-ptime . . . . .	77
1.9.18	no rtp keep-alive . . . . .	78
1.9.19	no rtp net-bind-ip . . . . .	78
1.9.20	no rtp-patch . . . . .	78
1.9.21	no rtp-patch ssrc . . . . .	79
1.9.22	no rtp-patch timestamp . . . . .	79
1.9.23	no sdp audio-payload send-name . . . . .	79
1.9.24	no sdp audio-payload send-ptime . . . . .	80
1.9.25	no transcoder-mgw . . . . .	80
1.9.26	number endpoints <0-65534> . . . . .	80
1.9.27	osmux (onloffonly) . . . . .	81
1.9.28	osmux batch-factor <1-8> . . . . .	81
1.9.29	osmux batch-size <1-65535> . . . . .	81
1.9.30	osmux bind-ip A.B.C.D . . . . .	82
1.9.31	osmux dummy (onloff) . . . . .	82
1.9.32	osmux port <1-65535> . . . . .	82
1.9.33	rtcp-omit . . . . .	83
1.9.34	rtp bts-base <0-65534> . . . . .	83
1.9.35	rtp bts-bind-ip A.B.C.D . . . . .	83
1.9.36	rtp bts-range <0-65534> <0-65534> . . . . .	84
1.9.37	rtp force-ptime (10 20 40) . . . . .	84
1.9.38	rtp ip-dscp <0-255> . . . . .	85
1.9.39	rtp keep-alive <1-120> . . . . .	85
1.9.40	rtp keep-alive once . . . . .	85
1.9.41	rtp net-base <0-65534> . . . . .	86
1.9.42	rtp net-bind-ip A.B.C.D . . . . .	86
1.9.43	rtp net-range <0-65534> <0-65534> . . . . .	86
1.9.44	rtp transcoder-base <0-65534> . . . . .	87
1.9.45	rtp transcoder-range <0-65534> <0-65534> . . . . .	87
1.9.46	rtp-patch ssrc . . . . .	87
1.9.47	rtp-patch timestamp . . . . .	88
1.9.48	sdp audio fmtpt-extra .NAME . . . . .	88
1.9.49	sdp audio-payload name NAME . . . . .	88

---

1.9.50	sdp audio-payload number <0-255>	89
1.9.51	sdp audio-payload send-name	89
1.9.52	sdp audio-payload send-ptime	89
1.9.53	transcoder-mgw A.B.C.D	90
1.9.54	transcoder-remote-base <0-65534>	90
1.9.55	trunk <1-64>	90
1.10	config-nat	91
1.10.1	access-list NAME imsi-allow [REGEXP]	91
1.10.2	access-list NAME imsi-deny [REGEXP] (<0-256>) (<0-256>)	91
1.10.3	access-list-name NAME	92
1.10.4	bsc BSC_NR	92
1.10.5	bscs-config-file NAME	92
1.10.6	imsi-black-list-file-name NAME	93
1.10.7	ip-dscp <0-255>	93
1.10.8	msc ip A.B.C.D	93
1.10.9	msc port <1-65500>	94
1.10.10	no access-list NAME	94
1.10.11	no access-list-name	94
1.10.12	no imsi-black-list-file-name	95
1.10.13	no number-rewrite	95
1.10.14	no number-rewrite-post	95
1.10.15	no paging-bss-forward	96
1.10.16	no paging-group <0-1000>	96
1.10.17	no prefix-tree	96
1.10.18	no sdp-ensure-amr-mode-set	97
1.10.19	no sms-clear-tp-srr	97
1.10.20	no sms-number-rewrite	97
1.10.21	number-rewrite FILENAME	98
1.10.22	number-rewrite-post FILENAME	98
1.10.23	paging-bss-forward	98
1.10.24	paging-group <0-1000>	98
1.10.25	prefix-tree FILENAME	99
1.10.26	rewrite-smsc addr FILENAME	99
1.10.27	rewrite-smsc tp-dest-match FILENAME	99
1.10.28	sdp-ensure-amr-mode-set	100
1.10.29	sms-clear-tp-srr FILENAME	100
1.10.30	sms-number-rewrite FILENAME	100
1.10.31	timeout auth <1-256>	101
1.10.32	timeout ping NR	101

1.10.33 timeout pong NR	101
1.10.34 token TOKEN	102
1.10.35 use-msc-ipa-for-mgcp	102
1.10.36 ussd-list-name NAME	102
1.10.37 ussd-local-ip A.B.C.D	102
1.10.38 ussd-query REGEXP	103
1.10.39 ussd-token TOKEN	103
1.11 config-nat-bsc	103
1.11.1 access-list-name NAME	103
1.11.2 auth-key KEY	104
1.11.3 bts-jitter-buffer	104
1.11.4 bts-jitter-buffer-delay-max <1-65535>	104
1.11.5 bts-jitter-buffer-delay-min <1-65535>	104
1.11.6 description DESC	105
1.11.7 location_area_code <0-65535>	105
1.11.8 max-endpoints <1-1024>	105
1.11.9 no access-list-name	106
1.11.10 no auth-key	106
1.11.11 no bts-jitter-buffer	106
1.11.12 no location_area_code <0-65535>	107
1.11.13 no paging group	107
1.11.14 osmux (onlofflonly)	107
1.11.15 paging forbidden (0 1)	108
1.11.16 paging group <0-1000>	108
1.11.17 token TOKEN	108
1.12 config-mgcp-trunk	109
1.12.1 allow-transcoding	109
1.12.2 loop (0 1)	109
1.12.3 no allow-transcoding	109
1.12.4 no rtcp-omit	110
1.12.5 no rtp keep-alive	110
1.12.6 no rtp-patch	110
1.12.7 no rtp-patch ssrc	111
1.12.8 no rtp-patch timestamp	111
1.12.9 no sdp audio-payload send-name	111
1.12.10 no sdp audio-payload send-ptime	112
1.12.11 rtcp-omit	112
1.12.12 rtp keep-alive <1-120>	112
1.12.13 rtp keep-alive once	113

1.12.14 rtp-patch ssrc . . . . .	113
1.12.15 rtp-patch timestamp . . . . .	113
1.12.16 sdp audio fntp-extra .NAME . . . . .	114
1.12.17 sdp audio-payload name NAME . . . . .	114
1.12.18 sdp audio-payload number <0-255> . . . . .	114
1.12.19 sdp audio-payload send-name . . . . .	115
1.12.20 sdp audio-payload send-ptime . . . . .	115
1.13 config-nat-paging-group . . . . .	116
1.13.1 location_area_code <0-65535> . . . . .	116
1.13.2 no location_area_code <0-65535> . . . . .	116

# 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 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

#### Command

```
list
```

#### Parameters

list

Print command list

### 1.1.5 show running-config

#### Command

```
show running-config
```

#### Parameters

##### show

Show running system information

##### running-config

running configuration

### 1.1.6 write

#### Command

```
write
```

#### Parameters

##### write

Write running configuration to memory, network, or terminal

### 1.1.7 write file

#### Command

```
write file
```

#### Parameters

##### write

Write running configuration to memory, network, or terminal

##### file

Write to configuration file

### 1.1.8 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)

---



### 1.1.9 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 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 enable

#### Command

```
enable
```

#### Parameters

##### enable

Turn on privileged mode command

### 1.2.3 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

### 1.2.4 logging disable

#### Command

```
logging disable
```

#### Parameters

##### logging

Configure logging

##### disable

Disables logging to this vty

### 1.2.5 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

---

### 1.2.6 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 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

### 1.2.7 logging level (rll|cc|mm|rr|rs|nm|mncc|pag|meas|sccp|msc|mgcp|ho|db|ref|gprs|ns...

#### Command

```
logging level (rll|cc|mm|rr|rs|nm|mncc|pag|meas|sccp|msc|mgcp|ho|db|ref|gprs|ns|bssgp| ↵
l1c|sndcp|nat|ctrl|smpp|filter|ranap|sua|pcu|lglobal|llapd|linp|lmux|lmi|lmib|lsms| ↵
lctrl|lgtp|lstats|lgsup|loap|lss7|lsccp|lsua|lm3ua|lmgcp|ljibuf|lrspro) (debug|info ↵
|notice|error|fatal)
```

#### Parameters

##### logging

Configure logging

##### level

Set the log level for a specified category

##### 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
filter	BSC/NAT IMSI based filtering
ranap	Radio Access Network Application Part Protocol
sua	SCCP User Adaptation Protocol
pcu	PCU Interface
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)
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
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

### 1.2.8 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

### 1.2.9 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

### 1.2.10 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

### 1.2.11 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>')



### 1.2.12 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

### 1.2.13 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.

---

### 1.2.14 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

### 1.2.15 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

### 1.2.16 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

### 1.2.17 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>'

### 1.2.18 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

---

### 1.2.19 show alarms

#### Command

```
show alarms
```

#### Parameters

##### show

Show running system information

##### alarms

Show current logging configuration

### 1.2.20 show asciidoc counters

#### Command

```
show asciidoc counters
```

#### Parameters

##### show

Show running system information

##### asciidoc

Asciidoc generation

##### counters

Generate table of all registered counters

### 1.2.21 show bsc connections

#### Command

```
show bsc connections
```

#### Parameters

##### show

Show running system information

##### bsc

Information about BSCs

##### connections

All active connections

---

### 1.2.22 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

### 1.2.23 show bsc status (nr|token|lac|all) [IDENT]

#### Command

```
show bsc status (nr|token|lac|all) [IDENT]
```

#### Parameters

show

Show running system information

bsc

Information about BSCs

status

Status of BSC

nr

Identify BSC by nr

token

Identify BSC by token

lac

Identify BSC by lac

all

Show all BSC

[IDENT]

NR/token/lac of the BSC

---

### 1.2.24 show bscs-config

#### Command

```
show bscs-config
```

#### Parameters

##### show

Show running system information

##### bscs-config

Show configured BSCs

### 1.2.25 show history

#### Command

```
show history
```

#### Parameters

##### show

Show running system information

##### history

Display the session command history

### 1.2.26 show imsi-black-list

#### Command

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

#### Parameters

##### show

Show running system information

##### imsi-black-list

IMSIIs barred from the network

---

### 1.2.27 show logging vty

#### Command

```
show logging vty
```

#### Parameters

show

Show running system information

logging

Show current logging configuration

vtv

Show current logging configuration for this vty

### 1.2.28 show mgcp [stats]

#### Command

```
show mgcp [stats]
```

#### Parameters

show

Show running system information

mgcp

Display information about the MGCP Media Gateway

[stats]

Include Statistics

### 1.2.29 show msc connection

#### Command

```
show msc connection
```

#### Parameters

show

Show running system information

msc

MSC related information

connection

Status of the A-link connection

### 1.2.30 show nat num-bscs-configured

#### Command

```
show nat num-bscs-configured
```

#### Parameters

##### show

Show running system information

##### nat

Display NAT configuration details

##### num-bscs-configured

BSCs-related

### 1.2.31 show online-help

#### Command

```
show online-help
```

#### Parameters

##### show

Show running system information

##### online-help

Online help

### 1.2.32 show prefix-tree

#### Command

```
show prefix-tree
```

#### Parameters

##### show

Show running system information

##### prefix-tree

Prefix tree for number rewriting



### 1.2.33 show rate-counters

#### Command

```
show rate-counters
```

#### Parameters

##### show

Show running system information

##### rate-counters

Show all rate counters

### 1.2.34 show sccp connections

#### Command

```
show sccp connections
```

#### Parameters

##### show

Show running system information

##### sccp

Display information about SCCP

##### connections

All active connections

### 1.2.35 show stats

#### Command

```
show stats
```

#### Parameters

##### show

Show running system information

##### stats

Show statistical values

---

### 1.2.36 show stats level (global|peer|subscriber)

#### Command

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

#### 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

### 1.2.37 show ussd-connection

#### Command

```
show ussd-connection
```

#### Parameters

show

Show running system information

ussd-connection

USSD connection related information

### 1.2.38 show version

#### Command

```
show version
```

#### Parameters

show

Show running system information

version

Displays program version

### 1.2.39 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)

### 1.2.40 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

### 1.2.41 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

---

### 1.2.42 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 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

### 1.3.2 configure terminal

#### Command

```
configure terminal
```

#### Parameters

configure

Configuration from vty interface

terminal

Configuration terminal

### 1.3.3 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)

### 1.3.4 disable

#### Command

```
disable
```

#### Parameters

##### disable

Turn off privileged mode command

### 1.3.5 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.

---

### 1.3.6 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 level (rll|cc|mm|rr|rs|nm|mncc|pag|meas|sccp|msc|mgcp|ho|db|ref|gprs|ns...

#### Command

```
logging level (rll|cc|mm|rr|rs|nm|mncc|pag|meas|sccp|msc|mgcp|ho|db|ref|gprs|ns|bssgp| ←
llc|sndcp|nat|ctrl|smpp|filter|ranap|sua|pcu|lgloba1|llapd|linp|lmux|lmi|lmib|lsms| ←
lctrl|lgtp|lstats|lgsup|loap|lss7|lsccp|lsua|lm3ua|lmgcp|ljibuf|lrspro) (debug|info ←
|notice|error|fatal)
```

#### Parameters

##### logging

Configure logging

##### level

Set the log level for a specified category

##### 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
filter	BSC/NAT IMSI based filtering
ranap	Radio Access Network Application Part Protocol
sua	SCCP User Adaptation Protocol
pcu	PCU Interface
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)
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
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

### 1.3.11 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

### 1.3.12 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

### 1.3.13 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

### 1.3.14 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>')

### 1.3.15 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

### 1.3.16 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.

---

### 1.3.17 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

### 1.3.18 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

### 1.3.19 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

### 1.3.20 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

### 1.3.21 nat-block (block|unblock)

#### Command

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

#### Parameters

##### nat-block

Block the NAT for new connections

##### block

Block

##### unblock

Unblock

### 1.3.22 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>'

### 1.3.23 reset-all-endpoints

#### Command

```
reset-all-endpoints
```

#### Parameters

##### reset-all-endpoints

Reset all endpoints

---



### 1.3.24 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.

### 1.3.25 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

### 1.3.26 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

---

### 1.3.27 show alarms

#### Command

```
show alarms
```

#### Parameters

##### show

Show running system information

##### alarms

Show current logging configuration

### 1.3.28 show asciidoc counters

#### Command

```
show asciidoc counters
```

#### Parameters

##### show

Show running system information

##### asciidoc

Asciidoc generation

##### counters

Generate table of all registered counters

### 1.3.29 show bsc connections

#### Command

```
show bsc connections
```

#### Parameters

##### show

Show running system information

##### bsc

Information about BSCs

##### connections

All active connections

---

### 1.3.30 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

### 1.3.31 show bsc status (nr|token|lac|all) [IDENT]

#### Command

```
show bsc status (nr|token|lac|all) [IDENT]
```

#### Parameters

show

Show running system information

bsc

Information about BSCs

status

Status of BSC

nr

Identify BSC by nr

token

Identify BSC by token

lac

Identify BSC by lac

all

Show all BSC

[IDENT]

NR/token/lac of the BSC

---

### 1.3.32 show bscs-config

#### Command

```
show bscs-config
```

#### Parameters

##### show

Show running system information

##### bscs-config

Show configured BSCs

### 1.3.33 show history

#### Command

```
show history
```

#### Parameters

##### show

Show running system information

##### history

Display the session command history

### 1.3.34 show imsi-black-list

#### Command

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

#### Parameters

##### show

Show running system information

##### imsi-black-list

IMSIIs barred from the network

---

### 1.3.35 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

### 1.3.36 show mgcp [stats]

#### Command

```
show mgcp [stats]
```

#### Parameters

##### show

Show running system information

##### mgcp

Display information about the MGCP Media Gateway

##### [stats]

Include Statistics

### 1.3.37 show msc connection

#### Command

```
show msc connection
```

#### Parameters

##### show

Show running system information

##### msc

MSC related information

##### connection

Status of the A-link connection

### 1.3.38 show nat num-bscs-configured

#### Command

```
show nat num-bscs-configured
```

#### Parameters

##### show

Show running system information

##### nat

Display NAT configuration details

##### num-bscs-configured

BSCs-related

### 1.3.39 show online-help

#### Command

```
show online-help
```

#### Parameters

##### show

Show running system information

##### online-help

Online help

### 1.3.40 show prefix-tree

#### Command

```
show prefix-tree
```

#### Parameters

##### show

Show running system information

##### prefix-tree

Prefix tree for number rewriting

### 1.3.41 show rate-counters

#### Command

```
show rate-counters
```

#### Parameters

##### show

Show running system information

##### rate-counters

Show all rate counters

### 1.3.42 show sccp connections

#### Command

```
show sccp connections
```

#### Parameters

##### show

Show running system information

##### sccp

Display information about SCCP

##### connections

All active connections

### 1.3.43 show startup-config

#### Command

```
show startup-config
```

#### Parameters

##### show

Show running system information

##### startup-config

Contentes of startup configuration

---

### 1.3.44 show stats

#### Command

```
show stats
```

#### Parameters

show

Show running system information

stats

Show statistical values

### 1.3.45 show stats level (global|peer|subscriber)

#### Command

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

#### 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

### 1.3.46 show ussd-connection

#### Command

```
show ussd-connection
```

#### Parameters

show

Show running system information

ussd-connection

USSD connection related information



### 1.3.47 show version

#### Command

```
show version
```

#### Parameters

##### show

Show running system information

##### version

Displays program version

### 1.3.48 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

---

### 1.3.49 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)

### 1.3.50 terminal monitor

#### Command

```
terminal monitor
```

#### Parameters

##### terminal

Set terminal line parameters

##### monitor

Copy debug output to the current terminal line

### 1.3.51 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

---

### 1.3.52 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

### 1.3.53 test regex PATTERN STRING

#### Command

```
test regex PATTERN STRING
```

#### Parameters

##### test

Test utilities

##### regex

Regexp testing

##### PATTERN

The regexp pattern

##### STRING

The string to match

### 1.3.54 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 ctrl

#### Command

```
ctrl
```

#### Parameters

##### ctrl

Configure the Control Interface

### 1.4.4 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

### 1.4.5 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

### 1.4.6 hostname WORD

#### Command

```
hostname WORD
```

#### Parameters

##### hostname

Set system's network name

##### WORD

This system's network name

---

### 1.4.7 line vty

#### Command

```
line vty
```

#### Parameters

line

Configure a terminal line

vtty

Virtual terminal

### 1.4.8 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

### 1.4.9 log file .FILENAME

#### Command

```
log file .FILENAME
```

#### Parameters

log

Configure logging sub-system

file

Logging to text file

.FILENAME

Filename

### 1.4.10 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)

### 1.4.11 log stderr

#### Command

```
log stderr
```

#### Parameters

log

Configure logging sub-system

stderr

Logging via STDERR of the process

### 1.4.12 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

### 1.4.13 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

### 1.4.14 mgcp

Command

```
mgcp
```

Parameters

mgcp

Configure the MGCP

---



### 1.4.15 nat

#### Command

```
nat
```

#### Parameters

nat

Configure the NAT

### 1.4.16 no banner motd

#### Command

```
no banner motd
```

#### Parameters

no

Negate a command or set its defaults

banner

Set banner string

motd

Strings for motd

### 1.4.17 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

### 1.4.18 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

### 1.4.19 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

### 1.4.20 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

### 1.4.21 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

### 1.4.22 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

### 1.4.23 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

---

### 1.4.24 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)

### 1.4.25 no stats reporter log

#### Command

```
no stats reporter log
```

#### Parameters

no

Negate a command or set its defaults

stats

Configure stats sub-system

reporter

Configure a stats reporter

log

Report to the logger

### 1.4.26 no stats reporter statsd

#### Command

```
no stats reporter statsd
```

#### 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

### 1.4.27 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

### 1.4.28 password LINE

Command

```
password LINE
```

Parameters

password

Assign the terminal connection password

LINE

The UNENCRYPTED (cleartext) line password

---

### 1.4.29 service advanced-vty

#### Command

```
service advanced-vty
```

#### Parameters

##### service

Set up miscellaneous service

##### advanced-vty

Enable advanced mode vty interface

### 1.4.30 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)

### 1.4.31 show history

#### Command

```
show history
```

#### Parameters

##### show

Show running system information

##### history

Display the session command history

---

### 1.4.32 stats interval <1-65535>

#### Command

```
stats interval <1-65535>
```

#### Parameters

stats

Configure stats sub-system

interval

Set the reporting interval

<1-65535>

Interval in seconds

### 1.4.33 stats reporter log

#### Command

```
stats reporter log
```

#### Parameters

stats

Configure stats sub-system

reporter

Configure a stats reporter

log

Report to the logger

### 1.4.34 stats reporter statsd

#### Command

```
stats reporter statsd
```

#### Parameters

stats

Configure stats sub-system

reporter

Configure a stats reporter

statsd

Report to a STATSD server

---

## 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 level (rll|cc|mm|rr|rs|nm|mncc|pag|meas|sccp|msc|mgcp|ho|db|ref|gprs|ns...

#### Command

```
logging level (rll|cc|mm|rr|rs|nm|mncc|pag|meas|sccp|msc|mgcp|ho|db|ref|gprs|ns|bssgp|
llc|sndcp|nat|ctrl|smpp|filter|ranap|sua|pcu|lglobal|llapd|linp|lmux|lmi|lmib|lsms|
lctrl|lgtp|lstats|lgsup|loap|lss7|lsccp|lsua|lm3ua|lmgcp|ljibuf|lrspro) (debug|info|
notice|error|fatal)
```

#### Parameters

##### logging

Configure logging

##### level

Set the log level for a specified category

##### rll

A-bis Radio Link Layer (RLL)

##### cc

Layer3 Call Control (CC)

##### mm

Layer3 Mobility Management (MM)

##### rr

Layer3 Radio Resource (RR)

##### rs

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 (SND CP)

nat  
GSM 08.08 NAT/Multiplexer

ctrl  
Control interface

smpp  
SMPP interface for external SMS apps

filter  
BSC/NAT IMSI based filtering

ranap  
Radio Access Network Application Part Protocol

sua  
SCCP User Adaptation Protocol

pcu  
PCU Interface

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)

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

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

---

### 1.5.4 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

### 1.5.5 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

### 1.5.6 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

### 1.5.7 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>')

### 1.5.8 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

### 1.5.9 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.

### 1.5.10 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

### 1.5.11 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

### 1.5.12 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 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

### 1.6.4 local-ip ADDR

#### Command

```
local-ip ADDR
```

#### Parameters

##### local-ip

Set the IP address to which we bind locally

##### ADDR

IP Address

### 1.6.5 mtu <100-65535>

#### Command

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

#### Parameters

##### mtu

Set the maximum packet size

##### <100-65535>

Size in byte

---

### 1.6.6 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

### 1.6.7 no mtu

#### Command

```
no mtu
```

#### Parameters

no

Negate a command or set its defaults

mtu

Set the maximum packet size

### 1.6.8 no prefix

#### Command

```
no prefix
```

#### Parameters

no

Negate a command or set its defaults

prefix

Set the item name prefix

### 1.6.9 prefix PREFIX

#### Command

```
prefix PREFIX
```

#### Parameters

##### prefix

Set the item name prefix

##### PREFIX

The prefix string

### 1.6.10 remote-ip ADDR

#### Command

```
remote-ip ADDR
```

#### Parameters

##### remote-ip

Set the remote IP address to which we connect

##### ADDR

IP Address

### 1.6.11 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-ctrl

### 1.8.1 bind A.B.C.D

#### Command

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

#### Parameters

##### bind

Set bind address to listen for Control connections

##### A.B.C.D

Local IP address (default 127.0.0.1)

## 1.9 config-mgcp

### 1.9.1 allow-transcoding

#### Command

```
allow-transcoding
```

#### Parameters

##### allow-transcoding

Allow transcoding

### 1.9.2 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

---

### 1.9.3 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

### 1.9.4 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

### 1.9.5 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

---

### 1.9.6 **bts-jitter-buffer**

#### Command

```
bts-jitter-buffer
```

#### Parameters

bts-jitter-buffer

Uplink Jitter Buffer

### 1.9.7 **bts-jitter-buffer-delay-max <1-65535>**

#### Command

```
bts-jitter-buffer-delay-max <1-65535>
```

#### Parameters

bts-jitter-buffer-delay-max

Uplink Jitter Buffer Maximum Delay in ms

<1-65535>

Maximum Delay in ms

### 1.9.8 **bts-jitter-buffer-delay-min <1-65535>**

#### Command

```
bts-jitter-buffer-delay-min <1-65535>
```

#### Parameters

bts-jitter-buffer-delay-min

Uplink Jitter Buffer Minimum Delay in ms

<1-65535>

Minimum Delay in ms

### 1.9.9 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

### 1.9.10 force-realloc (0|1)

#### Command

```
force-realloc (0|1)
```

#### Parameters

force-realloc

Force endpoint reallocation when the endpoint is still seized

0

Don't force reallocation

1

force reallocation

### 1.9.11 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

---



### 1.9.12 loop (0|1)

#### Command

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

#### Parameters

loop

Loop audio for all endpoints on main trunk

0

Don't Loop

1

Loop

### 1.9.13 no allow-transcoding

#### Command

```
no allow-transcoding
```

#### Parameters

no

Negate a command or set its defaults

allow-transcoding

Allow transcoding

### 1.9.14 no bts-jitter-buffer

#### Command

```
no bts-jitter-buffer
```

#### Parameters

no

Negate a command or set its defaults

bts-jitter-buffer

Uplink Jitter Buffer

---

### 1.9.15 no rtcp-omit

#### Command

```
no rtcp-omit
```

#### Parameters

no

Negate a command or set its defaults

rtcp-omit

Drop RTCP packets in both directions

### 1.9.16 no rtp bts-bind-ip

#### Command

```
no rtp bts-bind-ip
```

#### Parameters

no

Negate a command or set its defaults

rtp

RTP configuration

bts-bind-ip

Bind endpoints facing the BTS

### 1.9.17 no rtp force-ptime

#### Command

```
no rtp force-ptime
```

#### Parameters

no

Negate a command or set its defaults

rtp

RTP configuration

force-ptime

Force a fixed ptime for packets sent to the BTS

---

### 1.9.18 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

### 1.9.19 no rtp net-bind-ip

#### Command

```
no rtp net-bind-ip
```

#### Parameters

no

Negate a command or set its defaults

rtp

RTP configuration

net-bind-ip

Bind endpoints facing the Network

### 1.9.20 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

---

### 1.9.21 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

### 1.9.22 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

### 1.9.23 no sdp audio-payload send-name

#### Command

```
no sdp audio-payload send-name
```

#### Parameters

no

Negate a command or set its defaults

sdp

SDP File related options

audio-payload

Audio payload options

send-name

Send SDP rtpmap with the audio name

---

### 1.9.24 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

### 1.9.25 no transcoder-mgw

#### Command

```
no transcoder-mgw
```

#### Parameters

no

Negate a command or set its defaults

transcoder-mgw

Disable the transcoding

### 1.9.26 number endpoints <0-65534>

#### Command

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

#### Parameters

number

Number options

endpoints

Endpoints available

<0-65534>

Number endpoints

---

### 1.9.27 osmux (on|off|only)

#### Command

```
osmux (on|off|only)
```

#### Parameters

osmux

RTP multiplexing

on

Enable OSMUX

off

Disable OSMUX

only

Only use OSMUX

### 1.9.28 osmux batch-factor <1-8>

#### Command

```
osmux batch-factor <1-8>
```

#### Parameters

osmux

RTP multiplexing

batch-factor

Batching factor

<1-8>

Number of messages in the batch

### 1.9.29 osmux batch-size <1-65535>

#### Command

```
osmux batch-size <1-65535>
```

#### Parameters

osmux

RTP multiplexing

batch-size

batch size

<1-65535>

Batch size in bytes

### 1.9.30 osmux bind-ip A.B.C.D

#### Command

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

#### Parameters

osmux

RTP multiplexing

bind-ip

IP information

A.B.C.D

IPv4 Address to bind to

### 1.9.31 osmux dummy (on|off)

#### Command

```
osmux dummy (on|off)
```

#### Parameters

osmux

RTP multiplexing

dummy

Dummy padding

on

Enable dummy padding

off

Disable dummy padding

### 1.9.32 osmux port <1-65535>

#### Command

```
osmux port <1-65535>
```

#### Parameters

osmux

RTP multiplexing

port

port

<1-65535>

UDP port

### 1.9.33 rtcp-omit

#### Command

```
rtcp-omit
```

#### Parameters

rtcp-omit

Drop RTCP packets in both directions

### 1.9.34 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

### 1.9.35 rtp bts-bind-ip A.B.C.D

#### Command

```
rtp bts-bind-ip A.B.C.D
```

#### Parameters

rtp

RTP configuration

bts-bind-ip

Bind endpoints facing the BTS

A.B.C.D

Address to bind to

---



### 1.9.36 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

### 1.9.37 rtp force-ptime (10|20|40)

#### Command

```
rtp force-ptime (10|20|40)
```

#### Parameters

rtp

RTP configuration

force-ptime

Force a fixed ptime for packets sent to the BTS  
The required ptime (packet duration) in ms

10

10 ms

20

20 ms

40

40 ms

### 1.9.38 rtp ip-dscp <0-255>

#### Command

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

#### Parameters

rtp

RTP configuration

ip-dscp

Apply IP\_TOS to the audio stream (including Osmux)

<0-255>

The DSCP value

### 1.9.39 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

### 1.9.40 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

---

### 1.9.41 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

### 1.9.42 rtp net-bind-ip A.B.C.D

#### Command

```
rtp net-bind-ip A.B.C.D
```

#### Parameters

rtp

RTP configuration

net-bind-ip

Bind endpoints facing the Network

A.B.C.D

Address to bind to

### 1.9.43 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

### 1.9.44 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

### 1.9.45 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

### 1.9.46 rtp-patch ssrc

#### Command

```
rtp-patch ssrc
```

#### Parameters

rtp-patch

Modify RTP packet header in both directions

ssrc

Force a fixed SSRC

---

### 1.9.47 rtp-patch timestamp

#### Command

```
rtp-patch timestamp
```

#### Parameters

rtp-patch

Modify RTP packet header in both directions

timestamp

Adjust RTP timestamp

### 1.9.48 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

### 1.9.49 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

### 1.9.50 sdp audio-payload number <0-255>

#### Command

```
sdp audio-payload number <0-255>
```

#### Parameters

sdp

SDP File related options

audio-payload

Audio payload options

number

Number

<0-255>

Payload number

### 1.9.51 sdp audio-payload send-name

#### Command

```
sdp audio-payload send-name
```

#### Parameters

sdp

SDP File related options

audio-payload

Audio payload options

send-name

Send SDP rtpmap with the audio name

### 1.9.52 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

---

### 1.9.53 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

### 1.9.54 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

### 1.9.55 trunk <1-64>

#### Command

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

#### Parameters

trunk

Configure a SS7 trunk

<1-64>

Trunk Nr

## 1.10 config-nat

### 1.10.1 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

### 1.10.2 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



### 1.10.3 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.

### 1.10.4 bsc BSC\_NR

#### Command

```
bsc BSC_NR
```

#### Parameters

##### bsc

BSC configuration

##### BSC\_NR

Identifier of the BSC

### 1.10.5 bscs-config-file NAME

#### Command

```
bscs-config-file NAME
```

#### Parameters

##### bscs-config-file

Set the filename of the BSC configuration to include.

##### NAME

The filename to be included.

---

### 1.10.6 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

### 1.10.7 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

### 1.10.8 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

---

### 1.10.9 msc port <1-65500>

#### Command

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

#### Parameters

msc

MSC related configuration

port

Configure the port

<1-65500>

Port number

### 1.10.10 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

### 1.10.11 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.

---

### 1.10.12 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

### 1.10.13 no number-rewrite

#### Command

```
no number-rewrite
```

#### Parameters

no

Negate a command or set its defaults

number-rewrite

Set the file with rewriting rules.

### 1.10.14 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.

---

### 1.10.15 no paging-bss-forward

#### Command

```
no paging-bss-forward
```

#### Parameters

no

Negate a command or set its defaults

paging-bss-forward

Forward Paging messages with BSS as Cell Identity Discriminator

### 1.10.16 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

### 1.10.17 no prefix-tree

#### Command

```
no prefix-tree
```

#### Parameters

no

Negate a command or set its defaults

prefix-tree

Prefix tree for number rewriting

### 1.10.18 no sdp-ensure-amr-mode-set

#### Command

```
no sdp-ensure-amr-mode-set
```

#### Parameters

no

Negate a command or set its defaults

sdp-ensure-amr-mode-set

Ensure that SDP records include a mode-set

### 1.10.19 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

### 1.10.20 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

---

### 1.10.21 number-rewrite FILENAME

#### Command

```
number-rewrite FILENAME
```

#### Parameters

##### number-rewrite

Set the file with rewriting rules.

##### FILENAME

Filename

### 1.10.22 number-rewrite-post FILENAME

#### Command

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

#### Parameters

##### number-rewrite-post

Set the file with post-routing rewriting rules.

##### FILENAME

Filename

### 1.10.23 paging-bss-forward

#### Command

```
paging-bss-forward
```

#### Parameters

##### paging-bss-forward

Forward Paging messages with BSS as Cell Identity Discriminator

### 1.10.24 paging-group <0-1000>

#### Command

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

#### Parameters

##### paging-group

Create a Paging Group

##### <0-1000>

Number of the Group

---

### 1.10.25 prefix-tree FILENAME

#### Command

```
prefix-tree FILENAME
```

#### Parameters

##### prefix-tree

Prefix tree for number rewriting

##### FILENAME

File to load

### 1.10.26 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

### 1.10.27 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

---



### 1.10.28 sdp-ensure-amr-mode-set

#### Command

```
sdp-ensure-amr-mode-set
```

#### Parameters

sdp-ensure-amr-mode-set

Ensure that SDP records include a mode-set

### 1.10.29 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

### 1.10.30 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

---

### 1.10.31 timeout auth <1-256>

#### Command

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

#### Parameters

timeout

Timeout configuration

auth

Authentication timeout

<1-256>

Timeout in seconds

### 1.10.32 timeout ping NR

#### Command

```
timeout ping NR
```

#### Parameters

timeout

Timeout configuration

ping

Time between two pings

NR

Timeout in seconds

### 1.10.33 timeout pong NR

#### Command

```
timeout pong NR
```

#### Parameters

timeout

Timeout configuration

pong

Waiting for pong timeout

NR

Timeout in seconds

---

### 1.10.34 token TOKEN

#### Command

```
token TOKEN
```

#### Parameters

token

Authentication token configuration

TOKEN

Token of the BSC, currently transferred in cleartext

### 1.10.35 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.

### 1.10.36 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

### 1.10.37 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

---

### 1.10.38 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

### 1.10.39 ussd-token TOKEN

#### Command

```
ussd-token TOKEN
```

#### Parameters

##### ussd-token

Set the token used to identify the USSD module

##### TOKEN

Secret key

## 1.11 config-nat-bsc

### 1.11.1 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.

---

### 1.11.2 auth-key KEY

#### Command

```
auth-key KEY
```

#### Parameters

auth-key

Authentication (secret) key configuration

KEY

Non null security key

### 1.11.3 bts-jitter-buffer

#### Command

```
bts-jitter-buffer
```

#### Parameters

bts-jitter-buffer

Uplink Jitter Buffer

### 1.11.4 bts-jitter-buffer-delay-max <1-65535>

#### Command

```
bts-jitter-buffer-delay-max <1-65535>
```

#### Parameters

bts-jitter-buffer-delay-max

Uplink Jitter Buffer Maximum Delay in ms

<1-65535>

Maximum Delay in ms

### 1.11.5 bts-jitter-buffer-delay-min <1-65535>

#### Command

```
bts-jitter-buffer-delay-min <1-65535>
```

#### Parameters

bts-jitter-buffer-delay-min

Uplink Jitter Buffer Minimum Delay in ms

<1-65535>

Minimum Delay in ms

---

### 1.11.6 description DESC

#### Command

```
description DESC
```

#### Parameters

##### description

Provide a description for the given BSC.

##### DESC

Description

### 1.11.7 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

### 1.11.8 max-endpoints <1-1024>

#### Command

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

#### Parameters

##### max-endpoints

Highest endpoint to use (exclusively)

<1-1024>

Number of ports

### 1.11.9 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.

### 1.11.10 no auth-key

#### Command

```
no auth-key
```

#### Parameters

no

Negate a command or set its defaults

auth-key

Authentication (secret) key configuration

### 1.11.11 no bts-jitter-buffer

#### Command

```
no bts-jitter-buffer
```

#### Parameters

no

Negate a command or set its defaults

bts-jitter-buffer

Uplink Jitter Buffer

### 1.11.12 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

### 1.11.13 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.

### 1.11.14 osmux (on|off|only)

#### Command

```
osmux (on|off|only)
```

#### Parameters

osmux

RTP multiplexing

on

Enable OSMUX

off

Disable OSMUX

only

Only OSMUX



### 1.11.15 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

### 1.11.16 paging group <0-1000>

#### Command

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

#### Parameters

paging

Paging

group

Use a paging group

<0-1000>

Paging Group to use

### 1.11.17 token TOKEN

#### Command

```
token TOKEN
```

#### Parameters

token

Authentication token configuration

TOKEN

Token of the BSC, currently transferred in cleartext

---

## 1.12 config-mgcp-trunk

### 1.12.1 allow-transcoding

#### Command

```
allow-transcoding
```

#### Parameters

allow-transcoding

Allow transcoding

### 1.12.2 loop (0|1)

#### Command

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

#### Parameters

loop

Loop audio for all endpoints on this trunk

0

Don't Loop

1

Loop

### 1.12.3 no allow-transcoding

#### Command

```
no allow-transcoding
```

#### Parameters

no

Negate a command or set its defaults

allow-transcoding

Allow transcoding

---

### 1.12.4 no rtcp-omit

#### Command

```
no rtcp-omit
```

#### Parameters

no

Negate a command or set its defaults

rtcp-omit

Drop RTCP packets in both directions

### 1.12.5 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

### 1.12.6 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

---

### 1.12.7 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

### 1.12.8 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

### 1.12.9 no sdp audio-payload send-name

#### Command

```
no sdp audio-payload send-name
```

#### Parameters

no

Negate a command or set its defaults

sdp

SDP File related options

audio-payload

Audio payload options

send-name

Send SDP rtpmap with the audio name

---

### 1.12.10 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

### 1.12.11 rtcp-omit

#### Command

```
rtcp-omit
```

#### Parameters

rtcp-omit

Drop RTCP packets in both directions

### 1.12.12 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

---

### 1.12.13 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

### 1.12.14 rtp-patch ssrc

#### Command

```
rtp-patch ssrc
```

#### Parameters

rtp-patch

Modify RTP packet header in both directions

ssrc

Force a fixed SSRC

### 1.12.15 rtp-patch timestamp

#### Command

```
rtp-patch timestamp
```

#### Parameters

rtp-patch

Modify RTP packet header in both directions

timestamp

Adjust RTP timestamp

### 1.12.16 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

### 1.12.17 sdp audio-payload name NAME

#### Command

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

#### Parameters

sdp

SDP File related options

audio-payload

Audio payload options

name

Payload

NAME

Payload Name

### 1.12.18 sdp audio-payload number <0-255>

#### Command

```
sdp audio-payload number <0-255>
```

#### Parameters

---

sdp

SDP File related options

audio-payload

Audio payload options

number

Number

<0-255>

Payload Number

### 1.12.19 sdp audio-payload send-name

Command

```
sdp audio-payload send-name
```

Parameters

sdp

SDP File related options

audio-payload

Audio payload options

send-name

Send SDP rtpmap with the audio name

### 1.12.20 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



## 1.13 config-nat-paging-group

### 1.13.1 location\_area\_code <0-65535>

#### Command

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

#### Parameters

location\_area\_code

Add the Location Area Code (LAC)

<0-65535>

LAC

### 1.13.2 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