

OsmoHNBGW VTY Reference

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Contents

1	VTY reference	1
1.1	Common Commands	1
1.1.1	end	2
1.1.2	exit	2
1.1.3	help	2
1.1.4	list [with-flags]	2
1.1.5	show running-config	3
1.1.6	show vty-attributes	3
1.1.7	show vty-attributes (application library global)	3
1.1.8	write	4
1.1.9	write file [PATH]	4
1.1.10	write memory	4
1.1.11	write terminal	5
1.2	view	5
1.2.1	enable [expert-mode]	5
1.2.2	logging color (0 1)	5
1.2.3	logging disable	6
1.2.4	logging enable	6
1.2.5	logging filter all (0 1)	6
1.2.6	logging level (main hnbap lrua ranap mgw hnb cn nftl global lapd linp lmux lmill...)	7
1.2.7	logging level force-all (debug info notice error fatal)	9
1.2.8	logging level set-all (debug info notice error fatal)	10
1.2.9	logging print category (0 1)	11
1.2.10	logging print category-hex (0 1)	11
1.2.11	logging print extended-timestamp (0 1)	12
1.2.12	logging print file (0 1 basename) [last]	12
1.2.13	logging print level (0 1)	13
1.2.14	logging print thread-id (0 1)	13
1.2.15	logging set-log-mask MASK	14
1.2.16	logging timestamp (0 1)	14

1.2.17	logp (main hnbap rua ranap mgw hnb cn nftl global lapd linp mux lmib lsm ...	14
1.2.18	no logging level force-all	17
1.2.19	show alarms	17
1.2.20	show asciidoc counters	18
1.2.21	show cnlink	18
1.2.22	show cs7 (sualm3ualipa) (sctpltcp) [<0-65534>]	18
1.2.23	show cs7 (sualm3ualipa) [<0-65534>]	19
1.2.24	show cs7 config	19
1.2.25	show cs7 instance <0-15> as (active all m3ualsua)	20
1.2.26	show cs7 instance <0-15> as binding-table name AS_NAME	20
1.2.27	show cs7 instance <0-15> as name AS_NAME	21
1.2.28	show cs7 instance <0-15> asp	22
1.2.29	show cs7 instance <0-15> asp name ASP_NAME	22
1.2.30	show cs7 instance <0-15> asp-assoc-status	23
1.2.31	show cs7 instance <0-15> asp-assoc-status name ASP_NAME	23
1.2.32	show cs7 instance <0-15> asp-remaddr	24
1.2.33	show cs7 instance <0-15> asp-remaddr name ASP_NAME	24
1.2.34	show cs7 instance <0-15> route [POINT_CODE]	25
1.2.35	show cs7 instance <0-15> route binding-table [POINT_CODE] [all-matches]	25
1.2.36	show cs7 instance <0-15> route-lookup POINT_CODE from POINT_CODE sls <0-15> [lis...	26
1.2.37	show cs7 instance <0-15> sccp addressbook	26
1.2.38	show cs7 instance <0-15> sccp connections	27
1.2.39	show cs7 instance <0-15> sccp ssn <0-65535>	27
1.2.40	show cs7 instance <0-15> sccp timers	28
1.2.41	show cs7 instance <0-15> sccp users	29
1.2.42	show cs7 instance <0-15> users	29
1.2.43	show fsm NAME	30
1.2.44	show fsm all	30
1.2.45	show fsm-instances NAME	30
1.2.46	show fsm-instances all	31
1.2.47	show fsm-state-graph NAME	31
1.2.48	show history	31
1.2.49	show hnb NAME	32
1.2.50	show hnb all	32
1.2.51	show logging vty	32
1.2.52	show mgw-pool	33
1.2.53	show nri	33
1.2.54	show online-help	33
1.2.55	show pid	34

1.2.56	show rate-counters [skip-zero]	34
1.2.57	show runtime	34
1.2.58	show stats [skip-zero]	35
1.2.59	show stats level (global peer subscriber) [skip-zero]	35
1.2.60	show talloc	36
1.2.61	show talloc-context (application global all) (full brief DEPTH)	36
1.2.62	show talloc-context (application global all) (full brief DEPTH) filter REGEXP	37
1.2.63	show talloc-context (application global all) (full brief DEPTH) tree ADDRESS	37
1.2.64	show timer [(mgw hnbgw pfc p)] [TNNNN]	38
1.2.65	show uptime	39
1.2.66	show version	39
1.2.67	terminal length <0-512>	39
1.2.68	terminal no length	40
1.2.69	who	40
1.3	enable	40
1.3.1	(msc sgsn) <0-1000> ranap reset	40
1.3.2	configure [terminal]	41
1.3.3	copy running-config startup-config	41
1.3.4	cs7 instance <0-15> asp NAME disconnect	42
1.3.5	disable	42
1.3.6	logging color (0 1)	42
1.3.7	logging disable	43
1.3.8	logging enable	43
1.3.9	logging filter all (0 1)	43
1.3.10	logging level (main hnbap lrua ranap mgw hnb cn nftl global llapd linp lmux lmill ...	44
1.3.11	logging level force-all (debug info notice error fatal)	46
1.3.12	logging level set-all (debug info notice error fatal)	47
1.3.13	logging print category (0 1)	48
1.3.14	logging print category-hex (0 1)	48
1.3.15	logging print extended-timestamp (0 1)	49
1.3.16	logging print file (0 1 basename) [last]	49
1.3.17	logging print level (0 1)	50
1.3.18	logging print thread-id (0 1)	50
1.3.19	logging set-log-mask MASK	51
1.3.20	logging timestamp (0 1)	51
1.3.21	logp (main hnbap lrua ranap mgw hnb cn nftl global llapd linp lmux lmill mib lmsl ...	51
1.3.22	mgw <0-255> block	54
1.3.23	mgw <0-255> reconnect	54
1.3.24	mgw <0-255> unblock	55

1.3.25	no logging level force-all	55
1.3.26	show alarms	55
1.3.27	show asciidoc counters	56
1.3.28	show cnlink	56
1.3.29	show cs7 (sualm3ualipa) (sctpltcp) [<0-65534>]	56
1.3.30	show cs7 (sualm3ualipa) [<0-65534>]	57
1.3.31	show cs7 config	57
1.3.32	show cs7 instance <0-15> as (active all m3ualsua)	58
1.3.33	show cs7 instance <0-15> as binding-table name AS_NAME	58
1.3.34	show cs7 instance <0-15> as name AS_NAME	59
1.3.35	show cs7 instance <0-15> asp	60
1.3.36	show cs7 instance <0-15> asp name ASP_NAME	60
1.3.37	show cs7 instance <0-15> asp-assoc-status	61
1.3.38	show cs7 instance <0-15> asp-assoc-status name ASP_NAME	61
1.3.39	show cs7 instance <0-15> asp-remaddr	62
1.3.40	show cs7 instance <0-15> asp-remaddr name ASP_NAME	62
1.3.41	show cs7 instance <0-15> route [POINT_CODE]	63
1.3.42	show cs7 instance <0-15> route binding-table [POINT_CODE] [all-matches]	63
1.3.43	show cs7 instance <0-15> route-lookup POINT_CODE from POINT_CODE sls <0-15> [lis...	64
1.3.44	show cs7 instance <0-15> sccp addressbook	64
1.3.45	show cs7 instance <0-15> sccp connections	65
1.3.46	show cs7 instance <0-15> sccp ssn <0-65535>	65
1.3.47	show cs7 instance <0-15> sccp timers	66
1.3.48	show cs7 instance <0-15> sccp users	67
1.3.49	show cs7 instance <0-15> users	67
1.3.50	show fsm NAME	68
1.3.51	show fsm all	68
1.3.52	show fsm-instances NAME	68
1.3.53	show fsm-instances all	69
1.3.54	show fsm-state-graph NAME	69
1.3.55	show history	69
1.3.56	show hnb NAME	70
1.3.57	show hnb all	70
1.3.58	show logging vty	70
1.3.59	show mgw-pool	71
1.3.60	show nri	71
1.3.61	show online-help	71
1.3.62	show rate-counters [skip-zero]	72
1.3.63	show runtime	72

1.3.64	show startup-config	72
1.3.65	show stats [skip-zero]	73
1.3.66	show stats level (global peer subscriber) [skip-zero]	73
1.3.67	show talloc	74
1.3.68	show talloc-context (application global all) (full brief DEPTH)	74
1.3.69	show talloc-context (application global all) (full brief DEPTH) filter REGEXP	75
1.3.70	show talloc-context (application global all) (full brief DEPTH) tree ADDRESS	75
1.3.71	show timer [(mgw hnbgw pfc p)] [TNNNN]	76
1.3.72	show version	77
1.3.73	shutdown	77
1.3.74	stats report	77
1.3.75	stats reset	77
1.3.76	terminal length <0-512>	78
1.3.77	terminal monitor	78
1.3.78	terminal no length	78
1.3.79	terminal no monitor	79
1.3.80	who	79
1.4	config	79
1.4.1	apply sccp	79
1.4.2	banner motd default	80
1.4.3	banner motd file [FILE]	80
1.4.4	cs7 instance <0-15>	80
1.4.5	ctrl	81
1.4.6	enable password (8l) WORD	81
1.4.7	enable password LINE	82
1.4.8	hnbgw	82
1.4.9	hostname WORD	82
1.4.10	line vty	83
1.4.11	log alarms <2-32700>	83
1.4.12	log file FILENAME [blocking-io]	83
1.4.13	log gsmmap [HOSTNAME]	84
1.4.14	log stderr [blocking-io]	84
1.4.15	log syslog (authpriv cron daemon ftp lpr mail news user uucp)	84
1.4.16	log syslog local <0-7>	85
1.4.17	log systemd-journal [raw]	86
1.4.18	msc <0-1000>	86
1.4.19	no banner motd	86
1.4.20	no enable password	87
1.4.21	no hostname [HOSTNAME]	87

1.4.22	no log alarms	87
1.4.23	no log file FILENAME	88
1.4.24	no log gsmmap [HOSTNAME]	88
1.4.25	no log stderr	88
1.4.26	no log syslog	89
1.4.27	no log systemd-journal	89
1.4.28	no service advanced-vty	89
1.4.29	no service terminal-length [<0-512>]	90
1.4.30	no stats reporter log [NAME]	90
1.4.31	no stats reporter statsd [NAME]	91
1.4.32	password (8l) WORD	91
1.4.33	password LINE	91
1.4.34	service advanced-vty	92
1.4.35	service terminal-length <0-512>	92
1.4.36	sgsn <0-1000>	92
1.4.37	show history	93
1.4.38	stats interval <0-65535>	93
1.4.39	stats reporter log [NAME]	93
1.4.40	stats reporter statsd [NAME]	94
1.4.41	stats-tcp batch-size <1-65535>	94
1.4.42	stats-tcp interval <0-65535>	94
1.5	config-log	95
1.5.1	logging color (0l1)	95
1.5.2	logging filter all (0l1)	95
1.5.3	logging level (main hnbap lrua lranap mgw hnb cn nftl global llapd linpl mux lmill...	96
1.5.4	logging level force-all (debug info notice error fatal)	98
1.5.5	logging level set-all (debug info notice error fatal)	99
1.5.6	logging print category (0l1)	99
1.5.7	logging print category-hex (0l1)	100
1.5.8	logging print extended-timestamp (0l1)	100
1.5.9	logging print file (0l1 basename) [last]	101
1.5.10	logging print level (0l1)	101
1.5.11	logging print thread-id (0l1)	102
1.5.12	logging timestamp (0l1)	102
1.5.13	no logging level force-all	103
1.6	config-stats	103
1.6.1	disable	103
1.6.2	enable	103
1.6.3	flush-period <0-65535>	104

1.6.4	level (globalpeerlsubscriber)	104
1.6.5	local-ip ADDR	104
1.6.6	mtu <100-65535>	105
1.6.7	no local-ip	105
1.6.8	no mtu	105
1.6.9	no prefix	106
1.6.10	prefix PREFIX	106
1.6.11	remote-ip ADDR	106
1.6.12	remote-port <1-65535>	107
1.7	config-line	107
1.7.1	bind A.B.C.D [<0-65535>]	107
1.7.2	login	107
1.7.3	no login	108
1.8	config-ctrl	108
1.8.1	bind A.B.C.D [<0-65535>]	108
1.9	config-cs7	108
1.9.1	as NAME (sualm3ualipa)	108
1.9.2	asp NAME <0-65535> <0-65535> (sualm3ualipa)	109
1.9.3	asp NAME <0-65535> <0-65535> (sualm3ualipa) (sctp tcp)	110
1.9.4	description .TEXT	110
1.9.5	network-indicator (international national reserved spare)	111
1.9.6	no as NAME	111
1.9.7	no asp NAME	112
1.9.8	no sccp-address NAME	112
1.9.9	point-code POINT_CODE	113
1.9.10	point-code delimiter (default dash)	113
1.9.11	point-code format <1-24> [<1-23>] [<1-22>]	114
1.9.12	point-code format default	114
1.9.13	sccp max-optional-data (<0-999999> standard)	115
1.9.14	sccp-address NAME	115
1.9.15	sccp-timer (conn_est ias iar rell repeat_rell intl guard reset reassembly) <1-99999...>	116
1.9.16	secondary-pc POINT_CODE	117
1.9.17	sls-opc-dpc [opc-shift] [<0-8>] [dpc-shift] [<0-8>]	117
1.9.18	sls-shift <0-6>	118
1.9.19	xua rkm routing-key-allocation (static-only dynamic-permitted)	118
1.10	config-cs7-as	119
1.10.1	asp NAME	119
1.10.2	binding-table reset	119
1.10.3	description .TEXT	119

1.10.4	no asp NAME	120
1.10.5	no point-code override (opcldpc)	120
1.10.6	no traffic-mode	121
1.10.7	point-code override (opcldpc) PC	121
1.10.8	point-code override patch-sccp (disabledlboth)	122
1.10.9	qos-class <0-7>	122
1.10.10	recovery-timeout <1-2000>	123
1.10.11	routing-key RCONTEXT DPC	123
1.10.12	routing-key RCONTEXT DPC si (aal2lbicclb-isuplh248lisuplsat-isuplsccpltup)	124
1.10.13	routing-key RCONTEXT DPC si (aal2lbicclb-isuplh248lisuplsat-isuplsccpltup) ssn S...	125
1.10.14	routing-key RCONTEXT DPC ssn SSN	126
1.10.15	sls-shift <0-3>	126
1.10.16	traffic-mode (broadcast roundrobin override)	127
1.10.17	traffic-mode loadshare [bindings] [sls] [opc-sls] [opc-shift] [<0-2>]	127
1.11	config-cs7-asp	128
1.11.1	block	128
1.11.2	description .TEXT	128
1.11.3	local-ip (A.B.C.D X::X:X) [primary]	128
1.11.4	no local-ip (A.B.C.D X::X:X)	129
1.11.5	no quirk (no_notify aud_in_asplsnm_inactive)	129
1.11.6	no remote-ip (A.B.C.D X::X:X)	130
1.11.7	no sctp-param init (num-ostreamslmax-instreamslmax-attemptsltimeout)	130
1.11.8	no shutdown	131
1.11.9	no tcp-param keepalive	132
1.11.10	no tcp-param keepalive (timelintvllprobes)	132
1.11.11	no tcp-param user-timeout	133
1.11.12	qos-class <0-7>	133
1.11.13	quirk (no_notify aud_in_asplsnm_inactive)	134
1.11.14	remote-ip (A.B.C.D X::X:X) [primary]	134
1.11.15	role (sglasplisp)	135
1.11.16	sctp-param init (num-ostreamslmax-instreamslmax-attemptsltimeout) <0-65535>	135
1.11.17	shutdown	136
1.11.18	tcp-param keepalive (timelintvllprobes) <0-65535>	136
1.11.19	tcp-param keepalive enabled	137
1.11.20	tcp-param user-timeout <0-65535>	137
1.11.21	timer lm (wait_asp_uplwait_notifylwait_notify_rkmlwait_rk_reg_resp) <1-999999>	138
1.11.22	timer xua (acklbeat) <1-999999>	138
1.11.23	transport-role (clientlserver)	139
1.12	config-cs7-sccpaddr	139

1.12.1	global-title	139
1.12.2	no global-title	140
1.12.3	no point-code	140
1.12.4	no subsystem-number	140
1.12.5	point-code POINT_CODE	141
1.12.6	routing-indicator (GTIPCIIP)	141
1.12.7	subsystem-number <0-4294967295>	142
1.13	config-cs7-sccpaddr-gt	142
1.13.1	digits DIGITS	142
1.13.2	global-title-indicator <0-15>	143
1.13.3	nature-of-address-indicator <0-127>	143
1.13.4	numbering-plan-indicator <0-15>	143
1.13.5	translation-type <0-255>	144
1.14	config-hnbgw	144
1.14.1	hnb UMTS_CELL_ID	144
1.14.2	hnb-policy (accept-allclosed)	145
1.14.3	iucs	145
1.14.4	iuu	145
1.14.5	iups	145
1.14.6	log-prefix (hnb-idlums-cell-id)	146
1.14.7	mgcp	146
1.14.8	mgw <0-255>	146
1.14.9	nft-kpi [TABLE_NAME]	147
1.14.10	no hnb IDENTITY_INFO	147
1.14.11	no mgw <0-255>	147
1.14.12	no nft-kpi	148
1.14.13	pfcf	148
1.14.14	plmn <1-999> <0-999>	148
1.14.15	rnc-id <0-65535>	149
1.14.16	timer [(mgw hnbgw pfcf)] [TNNNN] [(<0-2147483647> default)]	149
1.15	config-hnbgw-hnb	150
1.16	config-hnbgw-iuu	150
1.16.1	hnabp-allow-tmsi (0 1)	150
1.16.2	local-ip A.B.C.D	150
1.16.3	local-port <1-65535>	150
1.17	config-hnbgw-iucs	151
1.17.1	nri bitlen <1-15>	151
1.17.2	nri null add <0-32767> [<0-32767>]	151
1.17.3	nri null del <0-32767> [<0-32767>]	152

1.18	config-hnbgw-iups	152
1.18.1	nri bitlen <1-15>	152
1.18.2	nri null add <0-32767> [<0-32767>]	153
1.18.3	nri null del <0-32767> [<0-32767>]	153
1.19	config-hnbgw-mgcp	154
1.19.1	keepalive request-endpoint NAME	154
1.19.2	keepalive request-interval <0-4294967295>	154
1.19.3	keepalive timeout <0-4294967295>	154
1.20	config-mgw	155
1.20.1	description .TEXT	155
1.20.2	endpoint-domain NAME	155
1.20.3	keepalive request-endpoint NAME	155
1.20.4	keepalive request-interval <0-4294967295>	156
1.20.5	keepalive timeout <0-4294967295>	156
1.20.6	local-ip (A.B.C.D X:X::X:X)	156
1.20.7	local-port <0-65535>	157
1.20.8	no reset-endpoint NAME	157
1.20.9	remote-ip (A.B.C.D X:X::X:X)	157
1.20.10	remote-port <0-65535>	158
1.20.11	reset-endpoint NAME	158
1.21	config-hnbgw-pfcp	158
1.21.1	local-addr IP_ADDR	158
1.21.2	local-port <1-65535>	159
1.21.3	netinst (accesslcore) NAME	159
1.21.4	remote-addr IP_ADDR	159
1.22	config-msc	160
1.22.1	allow-attach	160
1.22.2	allow-emergency	160
1.22.3	apply sccp	160
1.22.4	name NAME	161
1.22.5	no allow-attach	161
1.22.6	no allow-emergency	161
1.22.7	nri add <0-32767> [<0-32767>]	162
1.22.8	nri del <0-32767> [<0-32767>]	162
1.22.9	remote-addr NAME	163
1.22.10	show nri	163
1.23	config-sgsn	163
1.23.1	allow-attach	163
1.23.2	allow-emergency	164

1.23.3	apply sccp	164
1.23.4	name NAME	164
1.23.5	no allow-attach	165
1.23.6	no allow-emergency	165
1.23.7	nri add <0-32767> [<0-32767>]	166
1.23.8	nri del <0-32767> [<0-32767>]	166
1.23.9	remote-addr NAME	167
1.23.10	show nri	167

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 [with-flags]

Command

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

Parameters

list

Print command list

[with-flags]

Also print the VTY attribute flags

1.1.5 show running-config

Command

```
show running-config
```

Parameters

show

Show running system information

running-config

running configuration

1.1.6 show vty-attributes

Command

```
show vty-attributes
```

Parameters

show

Show running system information

vty-attributes

List of VTY attributes

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

Command

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

Parameters

show

Show running system information

vty-attributes

List of VTY attributes

application

Application specific attributes only

library

Library specific attributes only

global

Global attributes only

1.1.8 write

Command

```
write
```

Parameters

write

Write running configuration to memory, network, or terminal

1.1.9 write file [PATH]

Command

```
write file [PATH]
```

Parameters

write

Write running configuration to memory, network, or terminal

file

Write to configuration file

[PATH]

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

1.1.10 write memory

Command

```
write memory
```

Parameters

write

Write running configuration to memory, network, or terminal

memory

Write configuration to the file (same as write file)

1.1.11 write terminal

Command

```
write terminal
```

Parameters

write

Write running configuration to memory, network, or terminal

terminal

Write to terminal

1.2 view

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

1.2.1 enable [expert-mode]

Command

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

Parameters

enable

Turn on privileged mode command

[expert-mode]

Enable the expert mode (show hidden commands)

1.2.2 logging color (0|1)

Command

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

Parameters

logging

Configure logging

color

Configure color-printing for log messages

0

Don't use color for printing messages

1

Use color for printing messages

1.2.3 logging disable

Command

```
logging disable
```

Parameters

logging

Configure logging

disable

Disables logging to this vty

1.2.4 logging enable

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

Command

```
logging enable
```

Parameters

logging

Configure logging

enable

Enables logging to this vty

1.2.5 logging filter all (0|1)

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

Command

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

Parameters

logging

Configure logging

filter

Filter log messages

all

Do you want to log all messages?

0

Only print messages matched by other filters

1

Bypass filter and print all messages

1.2.6 logging level (main|hnbap|rua|ranap|mgw|hnb|cn|nft|lglobal|llapd|linp|lmux|lmi|l...

Command

```
logging level (main|hnbap|rua|ranap|mgw|hnb|cn|nft|lglobal|llapd|linp|lmux|lmi|lmib| ↵
lsms|lctrl|lgtp|lstats|lgsup|loap|lss7|lscdp|lsua|lm3ua|lmgcp|ljibuf|lrspro|lns| ↵
lbssgp|lnsdata|lnssignal|liuup|lpfcp|lcsn1|lio) (debug|info|notice|error|fatal)
```

Parameters

logging

Configure logging

level

Set the log level for a specified category

main

Main program

hnbap

Home Node B Application Part

rua

RANAP User Adaptation

ranap

RAN Application Part

mgw

Media Gateway

hnb

HNB side (via RUA)

cn

Core Network side (via SCCP)

nft

nftables interaction for retrieving stats

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

lns
GPRS NS layer

lbssgp
GPRS BSSGP layer

Insdata

GPRS NS layer data PDU

Inssignal

GPRS NS layer signal PDU

Iuuup

Iu UP layer

lpfcp

libosmo-pfcp Packet Forwarding Control Protocol

lcsn1

libosmo-csn1 Concrete Syntax Notation 1 codec

lio

libosmocore IO Subsystem

debug

Log debug messages and higher levels

info

Log informational messages and higher levels

notice

Log noticeable messages and higher levels

error

Log error messages and higher levels

fatal

Log only fatal messages

1.2.7 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

1.2.8 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

1.2.9 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

1.2.10 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>')

1.2.11 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

1.2.12 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.

1.2.13 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

1.2.14 logging print thread-id (0|1)

Command

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

Parameters

logging

Configure logging

print

Log output settings

thread-id

Configure log message logging Thread ID

0

Don't prefix each log message

1

Prefix each log message with current Thread ID

1.2.15 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 logp (main|hnbap|rua|ranap|mgw|hnb|cn|nft|lglobal|llapd|linp|lmux|lmi|lmib|lsms|...

Command

```
logp (main|hnbap|rua|ranap|mgw|hnb|cn|nft|lglobal|llapd|linp|lmux|lmi|lmib|lsms|lctrl| ↵
lgtp|lstats|lgsup|loap|lss7|lscpp|lsua|lm3ua|lmgcp|ljibuf|lrspro|lns|lbssgp|lnsdata ↵
|lnssignal|liuup|lpfcp|lcsn1|lio) (debug|info|notice|error|fatal) .LOGMESSAGE
```

Parameters

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

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Main program

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Home Node B Application Part

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RANAP User Adaptation

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RAN Application Part

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libosmo-sigtran SCCP User Adaptation

lm3ua
libosmo-sigtran MTP3 User Adaptation

lmgcp
libosmo-mgcp Media Gateway Control Protocol

ljibuf
libosmo-netif Jitter Buffer

lrspro
Remote SIM protocol

lns
GPRS NS layer

lbssgp
GPRS BSSGP layer

lnsdata
GPRS NS layer data PDU

lnssignal
GPRS NS layer signal PDU

liuup
Iu UP layer

lpfcp
libosmo-pfcp Packet Forwarding Control Protocol

lcsn1
libosmo-csn1 Concrete Syntax Notation 1 codec

lio
libosmocore IO Subsystem

debug
Log debug messages and higher levels

info
Log informational messages and higher levels

notice

Log noticeable messages and higher levels

error

Log error messages and higher levels

fatal

Log only fatal messages

.LOGMESSAGE

Arbitrary message to log on given category and log level

1.2.18 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>'

1.2.19 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 cnlink

Command

```
show cnlink
```

Parameters

show

Show running system information

cnlink

Display information on core network link

1.2.22 show cs7 (sua|m3ua|ipa) (sctp|tcp) [<0-65534>]

Command

```
show cs7 (sua|m3ua|ipa) (sctp|tcp) [<0-65534>]
```

Parameters

show

Show running system information

cs7

ITU-T Signaling System 7

sua

SCCP User Adaptation

m3ua
MTP3 User Adaptation

ipa
IPA Multiplex (SCCP Lite)

sctp
SCTP (Stream Control Transmission Protocol)

tcp
TCP (Transmission Control Protocol)

[<0-65534>]
Local Port Number

1.2.23 show cs7 (sua|m3ua|ipa) [<0-65534>]

Command

```
show cs7 (sua|m3ua|ipa) [<0-65534>]
```

Parameters

show
Show running system information

cs7
ITU-T Signaling System 7

sua
SCCP User Adaptation

m3ua
MTP3 User Adaptation

ipa
IPA Multiplex (SCCP Lite)

[<0-65534>]
Local Port Number

1.2.24 show cs7 config

Command

```
show cs7 config
```

Parameters

show
Show running system information

cs7
ITU-T Signaling System 7

config
Currently running cs7 configuration

1.2.25 show cs7 instance <0-15> as (active|all|m3ua|sua)

Command

```
show cs7 instance <0-15> as (active|all|m3ua|sua)
```

Parameters

show

Show running system information

cs7

ITU-T Signaling System 7

instance

An instance of the SS7 stack

<0-15>

An instance of the SS7 stack

as

Application Server (AS)

active

Display all active ASs

all

Display all ASs (default)

m3ua

Display all m3ua ASs

sua

Display all SUA ASs

1.2.26 show cs7 instance <0-15> as binding-table name AS_NAME

Command

```
show cs7 instance <0-15> as binding-table name AS_NAME
```

Parameters

show

Show running system information

cs7

ITU-T Signaling System 7

instance

An instance of the SS7 stack

<0-15>

An instance of the SS7 stack

as

Application Server (AS)

binding-table

Display binding table

name

Look up AS with a given name

AS_NAME

Name of the Application Server (AS)

1.2.27 show cs7 instance <0-15> as name AS_NAME

Command

```
show cs7 instance <0-15> as name AS_NAME
```

Parameters

show

Show running system information

cs7

ITU-T Signaling System 7

instance

An instance of the SS7 stack

<0-15>

An instance of the SS7 stack

as

Application Server (AS)

name

Look up AS with a given name

AS_NAME

Name of the Application Server (AS)

1.2.28 show cs7 instance <0-15> asp

Command

```
show cs7 instance <0-15> asp
```

Parameters

show

Show running system information

cs7

ITU-T Signaling System 7

instance

An instance of the SS7 stack

<0-15>

An instance of the SS7 stack

asp

Application Server Process (ASP)

1.2.29 show cs7 instance <0-15> asp name ASP_NAME

Command

```
show cs7 instance <0-15> asp name ASP_NAME
```

Parameters

show

Show running system information

cs7

ITU-T Signaling System 7

instance

An instance of the SS7 stack

<0-15>

An instance of the SS7 stack

asp

Application Server Process (ASP)

name

Lookup ASP with a given name

ASP_NAME

Name of the Application Server Process (ASP)

1.2.30 show cs7 instance <0-15> asp-assoc-status

Command

```
show cs7 instance <0-15> asp-assoc-status
```

Parameters

show

Show running system information

cs7

ITU-T Signaling System 7

instance

An instance of the SS7 stack

<0-15>

An instance of the SS7 stack

asp-assoc-status

Application Server Process (ASP) SCTP association status

1.2.31 show cs7 instance <0-15> asp-assoc-status name ASP_NAME

Command

```
show cs7 instance <0-15> asp-assoc-status name ASP_NAME
```

Parameters

show

Show running system information

cs7

ITU-T Signaling System 7

instance

An instance of the SS7 stack

<0-15>

An instance of the SS7 stack

asp-assoc-status

Application Server Process (ASP) SCTP association information

name

Lookup ASP with a given name

ASP_NAME

Name of the Application Server Process (ASP)

1.2.32 show cs7 instance <0-15> asp-remaddr

Command

```
show cs7 instance <0-15> asp-remaddr
```

Parameters

show

Show running system information

cs7

ITU-T Signaling System 7

instance

An instance of the SS7 stack

<0-15>

An instance of the SS7 stack

asp-remaddr

Application Server Process (ASP) remote addresses information

1.2.33 show cs7 instance <0-15> asp-remaddr name ASP_NAME

Command

```
show cs7 instance <0-15> asp-remaddr name ASP_NAME
```

Parameters

show

Show running system information

cs7

ITU-T Signaling System 7

instance

An instance of the SS7 stack

<0-15>

An instance of the SS7 stack

asp-remaddr

Application Server Process (ASP) remote addresses information

name

Lookup ASP with a given name

ASP_NAME

Name of the Application Server Process (ASP)

1.2.34 show cs7 instance <0-15> route [POINT_CODE]

Command

```
show cs7 instance <0-15> route [POINT_CODE]
```

Parameters

show

Show running system information

cs7

ITU-T Signaling System 7

instance

An instance of the SS7 stack

<0-15>

An instance of the SS7 stack

route

Routing Table

[POINT_CODE]

Destination Point Code

1.2.35 show cs7 instance <0-15> route binding-table [POINT_CODE] [all-matches]

Command

```
show cs7 instance <0-15> route binding-table [POINT_CODE] [all-matches]
```

Parameters

show

Show running system information

cs7

ITU-T Signaling System 7

instance

An instance of the SS7 stack

<0-15>

An instance of the SS7 stack

route

Routing Table

binding-table

Display binding table

[POINT_CODE]

Destination Point Code

[all-matches]

Display all matching Combination Links

1.2.36 show cs7 instance <0-15> route-lookup POINT_CODE from POINT_CODE sls <0-15> [lis...

Command

```
show cs7 instance <0-15> route-lookup POINT_CODE from POINT_CODE sls <0-15> [list-asps]
```

Parameters

show

Show running system information

cs7

ITU-T Signaling System 7

instance

An instance of the SS7 stack

<0-15>

An instance of the SS7 stack

route-lookup

Look up route

POINT_CODE

Destination PC

from

From

POINT_CODE

Origin PC

sls

SLS

<0-15>

SLS value

[list-asps]

List ASPs of the AS if route points to an AS

1.2.37 show cs7 instance <0-15> sccp addressbook

Command

```
show cs7 instance <0-15> sccp addressbook
```

Parameters

show

Show running system information

cs7

ITU-T Signaling System 7

instance

An instance of the SS7 stack

<0-15>

An instance of the SS7 stack

sccp

Signalling Connection Control Part

addressbook

List all SCCP addressbook entries

1.2.38 show cs7 instance <0-15> sccp connections

Command

```
show cs7 instance <0-15> sccp connections
```

Parameters

show

Show running system information

cs7

ITU-T Signaling System 7

instance

An instance of the SS7 stack

<0-15>

An instance of the SS7 stack

sccp

Signalling Connection Control Part

connections

Show List of active SCCP connections

1.2.39 show cs7 instance <0-15> sccp ssn <0-65535>

Command

```
show cs7 instance <0-15> sccp ssn <0-65535>
```

Parameters

show

Show running system information

cs7

ITU-T Signaling System 7

instance

An instance of the SS7 stack

<0-15>

An instance of the SS7 stack

sccp

Signalling Connection Control Part

ssn

Find an SCCP User registered for the given SSN

<0-65535>

Subsystem Number (SSN)

1.2.40 show cs7 instance <0-15> sccp timers

Command

```
show cs7 instance <0-15> sccp timers
```

Parameters

show

Show running system information

cs7

ITU-T Signaling System 7

instance

An instance of the SS7 stack

<0-15>

An instance of the SS7 stack

sccp

Signaling Connection Control Part

timers

Show List of SCCP timers

1.2.41 show cs7 instance <0-15> sccp users

Command

```
show cs7 instance <0-15> sccp users
```

Parameters

show

Show running system information

cs7

ITU-T Signaling System 7

instance

An instance of the SS7 stack

<0-15>

An instance of the SS7 stack

sccp

Signalling Connection Control Part

users

Show List of SCCP Users registered

1.2.42 show cs7 instance <0-15> users

Command

```
show cs7 instance <0-15> users
```

Parameters

show

Show running system information

cs7

ITU-T Signaling System 7

instance

An instance of the SS7 stack

<0-15>

An instance of the SS7 stack

users

User Table

1.2.43 show fsm NAME

Command

```
show fsm NAME
```

Parameters

show

Show running system information

fsm

Show information about finite state machines

NAME

Display information about a single named finite state machine

1.2.44 show fsm all

Command

```
show fsm all
```

Parameters

show

Show running system information

fsm

Show information about finite state machines

all

Display a list of all registered finite state machines

1.2.45 show fsm-instances NAME

Command

```
show fsm-instances NAME
```

Parameters

show

Show running system information

fsm-instances

Show information about finite state machine instances

NAME

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

1.2.46 show fsm-instances all

Command

```
show fsm-instances all
```

Parameters

show

Show running system information

fsm-instances

Show information about finite state machine instances

all

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

1.2.47 show fsm-state-graph NAME

Command

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

Parameters

show

Show running system information

fsm-state-graph

Generate a state transition graph (using DOT language)

NAME

FSM name

1.2.48 show history

Command

```
show history
```

Parameters

show

Show running system information

history

Display the session command history

1.2.49 show hnb NAME

Command

```
show hnb NAME
```

Parameters

show

Show running system information

hnb

Display information about HNB

NAME

HNB name

1.2.50 show hnb all

Command

```
show hnb all
```

Parameters

show

Show running system information

hnb

Display information about HNB

all

All HNB

1.2.51 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

1.2.52 show mgw-pool

Command

```
show mgw-pool
```

Parameters

show

Show running system information

mgw-pool

Display information about the MGW-Pool

1.2.53 show nri

Command

```
show nri
```

Parameters

show

Show running system information

nri

Mapping of Network Resource Indicators to this CN peer, for CN pooling

1.2.54 show online-help

Command

```
show online-help
```

Parameters

show

Show running system information

online-help

Online help

1.2.55 show pid

Command

```
show pid
```

Parameters

show

Show running system information

pid

Displays the process ID

1.2.56 show rate-counters [skip-zero]

Command

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

Parameters

show

Show running system information

rate-counters

Show all rate counters

[skip-zero]

Skip items with total count zero

1.2.57 show runtime

Command

```
show runtime
```

Parameters

show

Show running system information

runtime

Display runtime information

1.2.58 show stats [skip-zero]

Command

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

Parameters

show

Show running system information

stats

Show statistical values

[skip-zero]

Skip items with total count zero

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

Command

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

Parameters

show

Show running system information

stats

Show statistical values

level

Set the maximum group level

global

Show global groups only

peer

Show global and network peer related groups

subscriber

Show global, peer, and subscriber groups

[skip-zero]

Skip items with total count zero

1.2.60 show talloc

Command

```
show talloc
```

Parameters

show

Show running system information

talloc

Display talloc info

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

Command

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

Parameters

show

Show running system information

talloc-context

Show talloc memory hierarchy

application

Application's context

global

Global context (OTC_GLOBAL)

all

All contexts, if NULL-context tracking is enabled

full

Display a full talloc memory hierarchy

brief

Display a brief talloc memory hierarchy

DEPTH

Specify required maximal depth value

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

Command

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

Parameters

show

Show running system information

talloc-context

Show talloc memory hierarchy

application

Application's context

global

Global context (OTC_GLOBAL)

all

All contexts, if NULL-context tracking is enabled

full

Display a full talloc memory hierarchy

brief

Display a brief talloc memory hierarchy

DEPTH

Specify required maximal depth value

filter

Filter chunks using regular expression

REGEXP

Regular expression

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

Command

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

Parameters

show

Show running system information

talloc-context

Show talloc memory hierarchy

application

Application's context

global

Global context (OTC_GLOBAL)

all

All contexts, if NULL-context tracking is enabled

full

Display a full talloc memory hierarchy

brief

Display a brief talloc memory hierarchy

DEPTH

Specify required maximal depth value

tree

Display only a specific memory chunk

ADDRESS

Chunk address (e.g. 0xdeadbeef)

1.2.64 show timer [(mgw|hnbgw|pfcf)] [TNNNN]

Command

```
show timer [(mgw|hnbgw|pfcf)] [TNNNN]
```

Parameters

show

Show running system information

timer

Show timers

[mgw]

MGW (Media Gateway) interface

[hnbgw]

Timers

[pfcf]

PFCP timers

[TNNNN]

T- or X-timer-number -- 3GPP compliant timer number of the format '1234' or 'T1234' or 't1234'; Osmocom-specific timer number of the format: 'X1234' or 'x1234'.

1.2.65 show uptime

Command

```
show uptime
```

Parameters

show

Show running system information

uptime

Displays how long the program has been running

1.2.66 show version

Command

```
show version
```

Parameters

show

Show running system information

version

Displays program version

1.2.67 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)

1.2.68 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

1.2.69 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 (msc|sgsn) <0-1000> ranap reset

Command

```
(msc|sgsn) <0-1000> ranap reset
```

Parameters

msc

Manipulate an IuCS link to an MSC

sgsn

Manipulate an IuPS link to an SGSN

<0-1000>

MSC/SGSN nr

ranap

Manipulate RANAP layer of Iu-interface

reset

Flip this CN link to disconnected state and re-send RANAP RESET

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 cs7 instance <0-15> asp NAME disconnect

Command

```
cs7 instance <0-15> asp NAME disconnect
```

Parameters

cs7

ITU-T Signaling System 7

instance

Instance related commands

<0-15>

SS7 Instance Number

asp

ASP related commands

NAME

Name of ASP

disconnect

Disconnect the ASP (client will reconnect)

1.3.5 disable

Command

```
disable
```

Parameters

disable

Turn off privileged mode command

1.3.6 logging color (0|1)

Command

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

Parameters

logging

Configure logging

color

Configure color-printing for log messages

0

Don't use color for printing messages

1

Use color for printing messages

1.3.7 logging disable

Command

```
logging disable
```

Parameters

logging

Configure logging

disable

Disables logging to this vty

1.3.8 logging enable

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

Command

```
logging enable
```

Parameters

logging

Configure logging

enable

Enables logging to this vty

1.3.9 logging filter all (0|1)

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

Command

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

Parameters

logging

Configure logging

filter

Filter log messages

all

Do you want to log all messages?

0

Only print messages matched by other filters

1

Bypass filter and print all messages

1.3.10 logging level (main|hnbap|rua|ranap|mgw|hnb|cn|nft|lglobal|llapd|linp|lmux|lmi|l...

Command

```
logging level (main|hnbap|rua|ranap|mgw|hnb|cn|nft|lglobal|llapd|linp|lmux|lmi|lmib| ↵
lsms|lctrl|lgtp|lstats|lgsup|loap|lss7|lscdp|lsua|lm3ua|lmgcp|ljibuf|lrspro|lns| ↵
lbssgp|lnsdata|lnssignal|liuup|lpfcp|lcsn1|lio) (debug|info|notice|error|fatal)
```

Parameters

logging

Configure logging

level

Set the log level for a specified category

main

Main program

hnbap

Home Node B Application Part

rua

RANAP User Adaptation

ranap

RAN Application Part

mgw

Media Gateway

hnb

HNB side (via RUA)

cn

Core Network side (via SCCP)

nft

nftables interaction for retrieving stats

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

lns
GPRS NS layer

lbssgp
GPRS BSSGP layer

Insdata

GPRS NS layer data PDU

Inssignal

GPRS NS layer signal PDU

Iuuup

Iu UP layer

lpfcp

libosmo-pfcp Packet Forwarding Control Protocol

lcsn1

libosmo-csn1 Concrete Syntax Notation 1 codec

lio

libosmocore IO Subsystem

debug

Log debug messages and higher levels

info

Log informational messages and higher levels

notice

Log noticeable messages and higher levels

error

Log error messages and higher levels

fatal

Log only fatal messages

1.3.11 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 print thread-id (0|1)

Command

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

Parameters

logging

Configure logging

print

Log output settings

thread-id

Configure log message logging Thread ID

0

Don't prefix each log message

1

Prefix each log message with current Thread ID

1.3.19 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

1.3.20 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

1.3.21 logp (main|hnbap|rua|ranap|mgw|hnb|cn|nft|lglobal|llapd|linp|lmux|lmi|lmib|lsms|...

Command

```
logp (main|hnbap|rua|ranap|mgw|hnb|cn|nft|lglobal|llapd|linp|lmux|lmi|lmib|lsms|lctrl| ↵
lgtp|lstats|lgsup|loap|lss7|lscpp|lsua|lm3ua|lmgcp|ljibuf|lrspro|lms|lbssgp|lmsdata ↵
|lnssignal|liuup|lpfcp|lcsn1|lio) (debug|info|notice|error|fatal) .LOGMESSAGE
```

Parameters

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

main
Main program

hnbap
Home Node B Application Part

rua
RANAP User Adaptation

ranap
RAN Application Part

mgw
Media Gateway

hnb
HNB side (via RUA)

cn
Core Network side (via SCCP)

nft
nftables interaction for retrieving stats

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

lns
GPRS NS layer

lbssgp
GPRS BSSGP layer

lnsdata
GPRS NS layer data PDU

lnssignal
GPRS NS layer signal PDU

liuup
Iu UP layer

lpfcp
libosmo-pfcp Packet Forwarding Control Protocol

lcsn1
libosmo-csn1 Concrete Syntax Notation 1 codec

lio
libosmocore IO Subsystem

debug
Log debug messages and higher levels

info
Log informational messages and higher levels

notice

Log noticeable messages and higher levels

error

Log error messages and higher levels

fatal

Log only fatal messages

.LOGMESSAGE

Arbitrary message to log on given category and log level

1.3.22 mgw <0-255> block

Command

```
mgw <0-255> block
```

Global attributes

Flag: !

This command applies immediately

Parameters

mgw

Configure MGCP connection to Media Gateway

<0-255>

reference number

block

block MGCP client so that it won't be used for new calls

1.3.23 mgw <0-255> reconnect

Command

```
mgw <0-255> reconnect
```

Global attributes

Flag: !

This command applies immediately

Parameters

mgw

Configure MGCP connection to Media Gateway

<0-255>

reference number

reconnect

reconfigure and reconnect MGCP client

1.3.24 mgw <0-255> unblock

Command

```
mgw <0-255> unblock
```

Global attributes

Flag: !

This command applies immediately

Parameters

mgw

Configure MGCP connection to Media Gateway

<0-255>

reference number

unblock

unblock MGCP client so that it will be available for new calls

1.3.25 no logging level force-all

Command

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

Parameters

no

Negate a command or set its defaults

logging

Configure logging

level

Set the log level for a specified category

force-all

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

1.3.26 show alarms

Command

```
show alarms
```

Parameters

show

Show running system information

alarms

Show current logging configuration

1.3.27 show asciidoc counters

Command

```
show asciidoc counters
```

Parameters

show

Show running system information

asciidoc

Asciidoc generation

counters

Generate table of all registered counters

1.3.28 show cnlink

Command

```
show cnlink
```

Parameters

show

Show running system information

cnlink

Display information on core network link

1.3.29 show cs7 (sua|m3ua|ipa) (sctp|tcp) [<0-65534>]

Command

```
show cs7 (sua|m3ua|ipa) (sctp|tcp) [<0-65534>]
```

Parameters

show

Show running system information

cs7

ITU-T Signaling System 7

sua

SCCP User Adaptation

m3ua
MTP3 User Adaptation

ipa
IPA Multiplex (SCCP Lite)

sctp
SCTP (Stream Control Transmission Protocol)

tcp
TCP (Transmission Control Protocol)

[<0-65534>]
Local Port Number

1.3.30 show cs7 (sua|m3ua|ipa) [<0-65534>]

Command

```
show cs7 (sua|m3ua|ipa) [<0-65534>]
```

Parameters

show
Show running system information

cs7
ITU-T Signaling System 7

sua
SCCP User Adaptation

m3ua
MTP3 User Adaptation

ipa
IPA Multiplex (SCCP Lite)

[<0-65534>]
Local Port Number

1.3.31 show cs7 config

Command

```
show cs7 config
```

Parameters

show
Show running system information

cs7
ITU-T Signaling System 7

config
Currently running cs7 configuration

1.3.32 show cs7 instance <0-15> as (active|all|m3ua|sua)

Command

```
show cs7 instance <0-15> as (active|all|m3ua|sua)
```

Parameters

show

Show running system information

cs7

ITU-T Signaling System 7

instance

An instance of the SS7 stack

<0-15>

An instance of the SS7 stack

as

Application Server (AS)

active

Display all active ASs

all

Display all ASs (default)

m3ua

Display all m3ua ASs

sua

Display all SUA ASs

1.3.33 show cs7 instance <0-15> as binding-table name AS_NAME

Command

```
show cs7 instance <0-15> as binding-table name AS_NAME
```

Parameters

show

Show running system information

cs7

ITU-T Signaling System 7

instance

An instance of the SS7 stack

<0-15>

An instance of the SS7 stack

as

Application Server (AS)

binding-table

Display binding table

name

Look up AS with a given name

AS_NAME

Name of the Application Server (AS)

1.3.34 show cs7 instance <0-15> as name AS_NAME

Command

```
show cs7 instance <0-15> as name AS_NAME
```

Parameters

show

Show running system information

cs7

ITU-T Signaling System 7

instance

An instance of the SS7 stack

<0-15>

An instance of the SS7 stack

as

Application Server (AS)

name

Look up AS with a given name

AS_NAME

Name of the Application Server (AS)

1.3.35 show cs7 instance <0-15> asp

Command

```
show cs7 instance <0-15> asp
```

Parameters

show

Show running system information

cs7

ITU-T Signaling System 7

instance

An instance of the SS7 stack

<0-15>

An instance of the SS7 stack

asp

Application Server Process (ASP)

1.3.36 show cs7 instance <0-15> asp name ASP_NAME

Command

```
show cs7 instance <0-15> asp name ASP_NAME
```

Parameters

show

Show running system information

cs7

ITU-T Signaling System 7

instance

An instance of the SS7 stack

<0-15>

An instance of the SS7 stack

asp

Application Server Process (ASP)

name

Lookup ASP with a given name

ASP_NAME

Name of the Application Server Process (ASP)

1.3.37 show cs7 instance <0-15> asp-assoc-status

Command

```
show cs7 instance <0-15> asp-assoc-status
```

Parameters

show

Show running system information

cs7

ITU-T Signaling System 7

instance

An instance of the SS7 stack

<0-15>

An instance of the SS7 stack

asp-assoc-status

Application Server Process (ASP) SCTP association status

1.3.38 show cs7 instance <0-15> asp-assoc-status name ASP_NAME

Command

```
show cs7 instance <0-15> asp-assoc-status name ASP_NAME
```

Parameters

show

Show running system information

cs7

ITU-T Signaling System 7

instance

An instance of the SS7 stack

<0-15>

An instance of the SS7 stack

asp-assoc-status

Application Server Process (ASP) SCTP association information

name

Lookup ASP with a given name

ASP_NAME

Name of the Application Server Process (ASP)

1.3.39 show cs7 instance <0-15> asp-remaddr

Command

```
show cs7 instance <0-15> asp-remaddr
```

Parameters

show

Show running system information

cs7

ITU-T Signaling System 7

instance

An instance of the SS7 stack

<0-15>

An instance of the SS7 stack

asp-remaddr

Application Server Process (ASP) remote addresses information

1.3.40 show cs7 instance <0-15> asp-remaddr name ASP_NAME

Command

```
show cs7 instance <0-15> asp-remaddr name ASP_NAME
```

Parameters

show

Show running system information

cs7

ITU-T Signaling System 7

instance

An instance of the SS7 stack

<0-15>

An instance of the SS7 stack

asp-remaddr

Application Server Process (ASP) remote addresses information

name

Lookup ASP with a given name

ASP_NAME

Name of the Application Server Process (ASP)

1.3.41 show cs7 instance <0-15> route [POINT_CODE]

Command

```
show cs7 instance <0-15> route [POINT_CODE]
```

Parameters

show

Show running system information

cs7

ITU-T Signaling System 7

instance

An instance of the SS7 stack

<0-15>

An instance of the SS7 stack

route

Routing Table

[POINT_CODE]

Destination Point Code

1.3.42 show cs7 instance <0-15> route binding-table [POINT_CODE] [all-matches]

Command

```
show cs7 instance <0-15> route binding-table [POINT_CODE] [all-matches]
```

Parameters

show

Show running system information

cs7

ITU-T Signaling System 7

instance

An instance of the SS7 stack

<0-15>

An instance of the SS7 stack

route

Routing Table

binding-table

Display binding table

[POINT_CODE]

Destination Point Code

[all-matches]

Display all matching Combination Links

1.3.43 show cs7 instance <0-15> route-lookup POINT_CODE from POINT_CODE sls <0-15> [lis...

Command

```
show cs7 instance <0-15> route-lookup POINT_CODE from POINT_CODE sls <0-15> [list-asps]
```

Parameters

show

Show running system information

cs7

ITU-T Signaling System 7

instance

An instance of the SS7 stack

<0-15>

An instance of the SS7 stack

route-lookup

Look up route

POINT_CODE

Destination PC

from

From

POINT_CODE

Origin PC

sls

SLS

<0-15>

SLS value

[list-asps]

List ASPs of the AS if route points to an AS

1.3.44 show cs7 instance <0-15> sccp addressbook

Command

```
show cs7 instance <0-15> sccp addressbook
```

Parameters

show

Show running system information

cs7

ITU-T Signaling System 7

instance

An instance of the SS7 stack

<0-15>

An instance of the SS7 stack

sccp

Signalling Connection Control Part

addressbook

List all SCCP addressbook entries

1.3.45 show cs7 instance <0-15> sccp connections

Command

```
show cs7 instance <0-15> sccp connections
```

Parameters

show

Show running system information

cs7

ITU-T Signaling System 7

instance

An instance of the SS7 stack

<0-15>

An instance of the SS7 stack

sccp

Signalling Connection Control Part

connections

Show List of active SCCP connections

1.3.46 show cs7 instance <0-15> sccp ssn <0-65535>

Command

```
show cs7 instance <0-15> sccp ssn <0-65535>
```

Parameters

show

Show running system information

cs7

ITU-T Signaling System 7

instance

An instance of the SS7 stack

<0-15>

An instance of the SS7 stack

sccp

Signalling Connection Control Part

ssn

Find an SCCP User registered for the given SSN

<0-65535>

Subsystem Number (SSN)

1.3.47 show cs7 instance <0-15> sccp timers

Command

```
show cs7 instance <0-15> sccp timers
```

Parameters

show

Show running system information

cs7

ITU-T Signaling System 7

instance

An instance of the SS7 stack

<0-15>

An instance of the SS7 stack

sccp

Signaling Connection Control Part

timers

Show List of SCCP timers

1.3.48 show cs7 instance <0-15> sccp users

Command

```
show cs7 instance <0-15> sccp users
```

Parameters

show

Show running system information

cs7

ITU-T Signaling System 7

instance

An instance of the SS7 stack

<0-15>

An instance of the SS7 stack

sccp

Signalling Connection Control Part

users

Show List of SCCP Users registered

1.3.49 show cs7 instance <0-15> users

Command

```
show cs7 instance <0-15> users
```

Parameters

show

Show running system information

cs7

ITU-T Signaling System 7

instance

An instance of the SS7 stack

<0-15>

An instance of the SS7 stack

users

User Table

1.3.50 show fsm NAME

Command

```
show fsm NAME
```

Parameters

show

Show running system information

fsm

Show information about finite state machines

NAME

Display information about a single named finite state machine

1.3.51 show fsm all

Command

```
show fsm all
```

Parameters

show

Show running system information

fsm

Show information about finite state machines

all

Display a list of all registered finite state machines

1.3.52 show fsm-instances NAME

Command

```
show fsm-instances NAME
```

Parameters

show

Show running system information

fsm-instances

Show information about finite state machine instances

NAME

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

1.3.53 show fsm-instances all

Command

```
show fsm-instances all
```

Parameters

show

Show running system information

fsm-instances

Show information about finite state machine instances

all

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

1.3.54 show fsm-state-graph NAME

Command

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

Parameters

show

Show running system information

fsm-state-graph

Generate a state transition graph (using DOT language)

NAME

FSM name

1.3.55 show history

Command

```
show history
```

Parameters

show

Show running system information

history

Display the session command history

1.3.56 show hnb NAME

Command

```
show hnb NAME
```

Parameters

show

Show running system information

hnb

Display information about HNB

NAME

HNB name

1.3.57 show hnb all

Command

```
show hnb all
```

Parameters

show

Show running system information

hnb

Display information about HNB

all

All HNB

1.3.58 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

1.3.59 show mgw-pool

Command

```
show mgw-pool
```

Parameters

show

Show running system information

mgw-pool

Display information about the MGW-Pool

1.3.60 show nri

Command

```
show nri
```

Parameters

show

Show running system information

nri

Mapping of Network Resource Indicators to this CN peer, for CN pooling

1.3.61 show online-help

Command

```
show online-help
```

Parameters

show

Show running system information

online-help

Online help

1.3.62 show rate-counters [skip-zero]

Command

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

Parameters

show

Show running system information

rate-counters

Show all rate counters

[skip-zero]

Skip items with total count zero

1.3.63 show runtime

Command

```
show runtime
```

Parameters

show

Show running system information

runtime

Display runtime information

1.3.64 show startup-config

Command

```
show startup-config
```

Parameters

show

Show running system information

startup-config

Contentes of startup configuration

1.3.65 show stats [skip-zero]

Command

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

Parameters

show

Show running system information

stats

Show statistical values

[skip-zero]

Skip items with total count zero

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

Command

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

Parameters

show

Show running system information

stats

Show statistical values

level

Set the maximum group level

global

Show global groups only

peer

Show global and network peer related groups

subscriber

Show global, peer, and subscriber groups

[skip-zero]

Skip items with total count zero

1.3.67 show talloc

Command

```
show talloc
```

Parameters

show

Show running system information

talloc

Display talloc info

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

Command

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

Parameters

show

Show running system information

talloc-context

Show talloc memory hierarchy

application

Application's context

global

Global context (OTC_GLOBAL)

all

All contexts, if NULL-context tracking is enabled

full

Display a full talloc memory hierarchy

brief

Display a brief talloc memory hierarchy

DEPTH

Specify required maximal depth value

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

Command

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

Parameters

show

Show running system information

talloc-context

Show talloc memory hierarchy

application

Application's context

global

Global context (OTC_GLOBAL)

all

All contexts, if NULL-context tracking is enabled

full

Display a full talloc memory hierarchy

brief

Display a brief talloc memory hierarchy

DEPTH

Specify required maximal depth value

filter

Filter chunks using regular expression

REGEXP

Regular expression

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

Command

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

Parameters

show

Show running system information

talloc-context

Show talloc memory hierarchy

application

Application's context

global

Global context (OTC_GLOBAL)

all

All contexts, if NULL-context tracking is enabled

full

Display a full talloc memory hierarchy

brief

Display a brief talloc memory hierarchy

DEPTH

Specify required maximal depth value

tree

Display only a specific memory chunk

ADDRESS

Chunk address (e.g. 0xdeadbeef)

1.3.71 **show timer [(mgw|hnbgw|pfcf)] [TNNNN]**

Command

```
show timer [(mgw|hnbgw|pfcf)] [TNNNN]
```

Parameters

show

Show running system information

timer

Show timers

[mgw]

MGW (Media Gateway) interface

[hnbgw]

Timers

[pfcf]

PFCE timers

[TNNNN]

T- or X-timer-number -- 3GPP compliant timer number of the format '1234' or 'T1234' or 't1234'; Osmocom-specific timer number of the format: 'X1234' or 'x1234'.

1.3.72 show version

Command

```
show version
```

Parameters

show

Show running system information

version

Displays program version

1.3.73 shutdown

Command

```
shutdown
```

Parameters

shutdown

Request a shutdown of the program

1.3.74 stats report

Command

```
stats report
```

Parameters

stats

Stats related commands

report

Manurally trigger reporting of stats

1.3.75 stats reset

Command

```
stats reset
```

Parameters

stats

Stats related commands

reset

Reset all rate counter stats

1.3.76 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)

1.3.77 terminal monitor

Command

```
terminal monitor
```

Parameters

terminal

Set terminal line parameters

monitor

Copy debug output to the current terminal line

1.3.78 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

1.3.79 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

1.3.80 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 apply sccp

Command

```
apply sccp
```

Parameters

apply

Immediately use configuration modified via telnet VTY, and restart components as needed.

sccp

For telnet VTY: apply all SCCP and NRI config changes made to any CN pools and CN links in the running osmo-hnbgw process. If 'remote-addr' changed, related SCCP links will be restarted, possibly dropping active UE contexts. This is run implicitly on program startup, only useful to apply changes made later via telnet VTY.

1.4.2 banner motd default

Command

```
banner motd default
```

Parameters

banner

Set banner string

motd

Strings for motd

default

Default string

1.4.3 banner motd file [FILE]

Command

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

Parameters

banner

Set banner

motd

Banner for motd

file

Banner from a file

[FILE]

Filename

1.4.4 cs7 instance <0-15>

Command

```
cs7 instance <0-15>
```

Global attributes

Flag: !

This command applies immediately

Parameters

cs7

ITU-T Signaling System 7

instance

Configure a SS7 Instance

<0-15>

An instance of the SS7 stack

1.4.5 ctrl

Command

```
ctrl
```

Parameters

ctrl

Configure the Control Interface

1.4.6 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

1.4.7 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

1.4.8 hnbgw

Command

```
hnbgw
```

Parameters

hnbgw

Configure HNBGW options

1.4.9 hostname WORD

Command

```
hostname WORD
```

Parameters

hostname

Set system's network name

WORD

This system's network name

1.4.10 line vty

Command

```
line vty
```

Parameters

line

Configure a terminal line

vtty

Virtual terminal

1.4.11 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

1.4.12 log file FILENAME [blocking-io]

Command

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

Parameters

log

Configure logging sub-system

file

Logging to text file

FILENAME

Filename

[blocking-io]

Use blocking, synchronous I/O

1.4.13 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)

1.4.14 log stderr [blocking-io]

Command

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

Parameters

log

Configure logging sub-system

stderr

Logging via STDERR of the process

[blocking-io]

Use blocking, synchronous I/O

1.4.15 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

1.4.16 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

1.4.17 log systemd-journal [raw]

Command

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

Parameters

log

Configure logging sub-system

systemd-journal

Logging to systemd-journal

[raw]

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

1.4.18 msc <0-1000>

Command

```
msc <0-1000>
```

Parameters

msc

Configure an IuCS link to an MSC

<0-1000>

MSC nr

1.4.19 no banner motd

Command

```
no banner motd
```

Parameters

no

Negate a command or set its defaults

banner

Set banner string

motd

Strings for motd

1.4.20 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

1.4.21 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

1.4.22 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

1.4.23 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

1.4.24 no log gsmtap [HOSTNAME]

Command

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

Parameters

no

Negate a command or set its defaults

log

Configure logging sub-system

gsmtap

Logging via GSMTAP

[HOSTNAME]

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

1.4.25 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

1.4.26 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

1.4.27 no log systemd-journal

Command

```
no log systemd-journal
```

Parameters

no

Negate a command or set its defaults

log

Configure logging sub-system

systemd-journal

Logging to systemd-journal

1.4.28 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

1.4.29 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)

1.4.30 no stats reporter log [NAME]

Command

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

Parameters

no

Negate a command or set its defaults

stats

Configure stats sub-system

reporter

Configure a stats reporter

log

Report to the logger

[NAME]

Name of the reporter

1.4.31 no stats reporter statsd [NAME]

Command

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

Parameters

no

Negate a command or set its defaults

stats

Configure stats sub-system

reporter

Configure a stats reporter

statsd

Report to a STATSD server

[NAME]

Name of the reporter

1.4.32 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

1.4.33 password LINE

Command

```
password LINE
```

Parameters

password

Assign the terminal connection password

LINE

The UNENCRYPTED (cleartext) line password

1.4.34 service advanced-vty

Command

```
service advanced-vty
```

Parameters

service

Set up miscellaneous service

advanced-vty

Enable advanced mode vty interface

1.4.35 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)

1.4.36 sgsn <0-1000>

Command

```
sgsn <0-1000>
```

Parameters

sgsn

Configure an IuPS link to an SGSN

<0-1000>

SGSN nr

1.4.37 show history

Command

```
show history
```

Parameters

show

Show running system information

history

Display the session command history

1.4.38 stats interval <0-65535>

Command

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

Parameters

stats

Configure stats sub-system

interval

Set the reporting interval

<0-65535>

Interval in seconds (0 disables the reporting interval)

1.4.39 stats reporter log [NAME]

Command

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

Parameters

stats

Configure stats sub-system

reporter

Configure a stats reporter

log

Report to the logger

[NAME]

Name of the reporter

1.4.40 stats reporter statsd [NAME]

Command

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

Parameters

stats

Configure stats sub-system

reporter

Configure a stats reporter

statsd

Report to a STATSD server

[NAME]

Name of the reporter

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

Command

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

Parameters

stats-tcp

Configure stats sub-system

batch-size

Set the number of tcp sockets that are processed per stats polling interval

<1-65535>

Number of sockets per interval

1.4.42 stats-tcp interval <0-65535>

Command

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

Parameters

stats-tcp

Configure stats sub-system

interval

Set the tcp socket stats polling interval

<0-65535>

Interval in seconds (0 disables the polling interval)

1.5 config-log

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

1.5.1 logging color (0|1)

Command

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

Parameters

logging

Configure logging

color

Configure color-printing for log messages

0

Don't use color for printing messages

1

Use color for printing messages

1.5.2 logging filter all (0|1)

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

Command

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

Parameters

logging

Configure logging

filter

Filter log messages

all

Do you want to log all messages?

0

Only print messages matched by other filters

1

Bypass filter and print all messages

1.5.3 logging level (main|hnbap|rua|ranap|mgw|hnb|cn|nft|lglobal|llapd|linp|lmux|lmi|l...

Command

```
logging level (main|hnbap|rua|ranap|mgw|hnb|cn|nft|lglobal|llapd|linp|lmux|lmi|lmib| ↵
             lsms|lctrl|lgtp|lstats|lgsup|loap|lss7|lscpp|lsua|lm3ua|lmgcp|ljibuf|lrspro|lns| ↵
             lbssgp|lndata|lnssignal|liuup|lpfcp|lcsn1|lio) (debug|info|notice|error|fatal)
```

Parameters

logging

Configure logging

level

Set the log level for a specified category

main

Main program

hnbap

Home Node B Application Part

rua

RANAP User Adaptation

ranap

RAN Application Part

mgw

Media Gateway

hnb

HNB side (via RUA)

cn

Core Network side (via SCCP)

nft

nftables interaction for retrieving stats

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

lns
GPRS NS layer

lbssgp
GPRS BSSGP layer

lndata
GPRS NS layer data PDU

lnsignal
GPRS NS layer signal PDU

liuup
Iu UP layer

lpfc	libosmo-pfcp Packet Forwarding Control Protocol
lcsn1	libosmo-csn1 Concrete Syntax Notation 1 codec
lio	libosmocore IO Subsystem
debug	Log debug messages and higher levels
info	Log informational messages and higher levels
notice	Log noticeable messages and higher levels
error	Log error messages and higher levels
fatal	Log only fatal messages

1.5.4 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 print thread-id (0|1)

Command

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

Parameters

logging

Configure logging

print

Log output settings

thread-id

Configure log message logging Thread ID

0

Don't prefix each log message

1

Prefix each log message with current Thread ID

1.5.12 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

1.5.13 no logging level force-all

Command

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

Parameters

no

Negate a command or set its defaults

logging

Configure logging

level

Set the log level for a specified category

force-all

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

1.6 config-stats

1.6.1 disable

Command

```
disable
```

Parameters

disable

Disable the reporter

1.6.2 enable

Command

```
enable
```

Parameters

enable

Enable the reporter

1.6.3 flush-period <0-65535>

Command

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

Parameters

flush-period

Configure stats sub-system

<0-65535>

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

1.6.4 level (global|peer|subscriber)

Command

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

Parameters

level

Set the maximum group level

global

Report global groups only

peer

Report global and network peer related groups

subscriber

Report global, peer, and subscriber groups

1.6.5 local-ip ADDR

Command

```
local-ip ADDR
```

Parameters

local-ip

Set the IP address to which we bind locally

ADDR

IP Address

1.6.6 mtu <100-65535>

Command

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

Parameters

mtu

Set the maximum packet size

<100-65535>

Size in byte

1.6.7 no local-ip

Command

```
no local-ip
```

Parameters

no

Negate a command or set its defaults

local-ip

Set the IP address to which we bind locally

1.6.8 no mtu

Command

```
no mtu
```

Parameters

no

Negate a command or set its defaults

mtu

Set the maximum packet size

1.6.9 no prefix

Command

```
no prefix
```

Parameters

no

Negate a command or set its defaults

prefix

Set the item name prefix

1.6.10 prefix PREFIX

Command

```
prefix PREFIX
```

Parameters

prefix

Set the item name prefix

PREFIX

The prefix string

1.6.11 remote-ip ADDR

Command

```
remote-ip ADDR
```

Parameters

remote-ip

Set the remote IP address to which we connect

ADDR

IP Address

1.6.12 remote-port <1-65535>

Command

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

Parameters

remote-port

Set the remote port to which we connect

<1-65535>

Remote port number

1.7 config-line

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

Command

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

Parameters

bind

Accept VTY telnet connections on local interface

A.B.C.D

Local interface IP address (default: 127.0.0.1)

[<0-65535>]

Local TCP port number

1.7.2 login

Command

```
login
```

Parameters

login

Enable password checking

1.7.3 no login

Command

```
no login
```

Parameters

no

Negate a command or set its defaults

login

Enable password checking

1.8 config-ctrl

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

Command

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

Parameters

bind

Set bind address to listen for Control connections

A.B.C.D

Local IP address (default 127.0.0.1)

[<0-65535>]

Local TCP port number

1.9 config-cs7

1.9.1 as NAME (sua|m3ua|ipa)

Command

```
as NAME (sua|m3ua|ipa)
```

Global attributes

Flag: !

This command applies immediately

Parameters

as

Configure an Application Server

NAME

Name of the Application Server

sua

SCCP User Adaptation

m3ua

MTP3 User Adaptation

ipa

IPA Multiplex (SCCP Lite)

1.9.2 asp NAME <0-65535> <0-65535> (sua|m3ua|ipa)

Command

```
asp NAME <0-65535> <0-65535> (sua|m3ua|ipa)
```

Global attributes

Flag: @

This command applies on VTY node exit

Parameters

asp

Configure Application Server Process

NAME

Name of ASP

<0-65535>

Remote port number

<0-65535>

Local port number

sua

SCCP User Adaptation

m3ua

MTP3 User Adaptation

ipa

IPA Multiplex (SCCP Lite)

1.9.3 asp NAME <0-65535> <0-65535> (sua|m3ua|ipa) (sctp|tcp)

Command

```
asp NAME <0-65535> <0-65535> (sua|m3ua|ipa) (sctp|tcp)
```

Global attributes

Flag: @

This command applies on VTY node exit

Parameters

asp

Configure Application Server Process

NAME

Name of ASP

<0-65535>

Remote port number

<0-65535>

Local port number

sua

SCCP User Adaptation

m3ua

MTP3 User Adaptation

ipa

IPA Multiplex (SCCP Lite)

sctp

SCTP (Stream Control Transmission Protocol)

tcp

TCP (Transmission Control Protocol)

1.9.4 description .TEXT

Command

```
description .TEXT
```

Parameters

description

Save human-readable description of the object

.TEXT

Text until the end of the line

1.9.5 network-indicator (international | national | reserved | spare)

Command

```
network-indicator (international | national | reserved | spare)
```

Global attributes

Flag: !

This command applies immediately

Parameters

network-indicator

Configure the Network Indicator

international

International Network

national

National Network

reserved

Reserved Network

spare

Spare Network

1.9.6 no as NAME

Command

```
no as NAME
```

Global attributes

Flag: !

This command applies immediately

Parameters

no

Negate a command or set its defaults

as

Disable Application Server

NAME

Name of AS

1.9.7 no asp NAME

Command

```
no asp NAME
```

Global attributes

Flag: !

This command applies immediately

Parameters

no

Negate a command or set its defaults

asp

Disable Application Server Process

NAME

Name of ASP

1.9.8 no sccp-address NAME

Command

```
no sccp-address NAME
```

Global attributes

Flag: !

This command applies immediately

Parameters

no

Negate a command or set its defaults

sccp-address

Delete an SCCP addressbook entry

NAME

Name of the SCCP Address

1.9.9 point-code POINT_CODE

Command

```
point-code POINT_CODE
```

Global attributes

Flag: !

This command applies immediately

Parameters

point-code

Configure the local Point Code

POINT_CODE

Point Code

1.9.10 point-code delimiter (default|dash)

Command

```
point-code delimiter (default|dash)
```

Global attributes

Flag: !

This command applies immediately

Parameters

point-code

Point Code

delimiter

Configure Point Code Delimiter

default

Use dot as delimiter

dash

User dash as delimiter

1.9.11 point-code format <1-24> [<1-23>] [<1-22>]

Command

```
point-code format <1-24> [<1-23>] [<1-22>]
```

Global attributes

Flag: !

This command applies immediately

Parameters

point-code

Point Code

format

Configure Point Code Format

<1-24>

Length of first PC component

[<1-23>]

Length of second PC component

[<1-22>]

Length of third PC component

1.9.12 point-code format default

Command

```
point-code format default
```

Global attributes

Flag: !

This command applies immediately

Parameters

point-code

Point Code

format

Configure Point Code Format

default

Default Point Code Format (3.8.3)

1.9.13 sccp max-optional-data (<0-999999>|standard)

Command

```
sccp max-optional-data (<0-999999>|standard)
```

Global attributes

Flag: !

This command applies immediately

Parameters

sccp

Configure SCCP behavior

max-optional-data

Adjust the upper bound for the optional data length (the payload) for CR, CC, CREF and RLSD messages. For any Optional Data part larger than this value in octets, send CR, CC, CREF and RLSD messages without any payload, and send the data payload in a separate Data Form 1 message. ITU-T Q.713 sections 4.2 thru 4.5 define a limit of 130 bytes for the 'Data' parameter. This limit can be adjusted here. May be useful for interop with nonstandard SCCP peers.

<0-999999>

Set a non-standard maximum allowed number of bytes

standard

Use the ITU-T Q.713 4.2 to 4.5 standard value of 130

1.9.14 sccp-address NAME

Command

```
sccp-address NAME
```

Global attributes

Flag: !

This command applies immediately

Parameters

sccp-address

Create/Modify an SCCP addressbook entry

NAME

Name of the SCCP Address

1.9.15 sccp-timer (conn_est|ias|iar|rel|repeat_rel|int|guard|reset|reassembly) <1-99999...

Command

```
sccp-timer (conn_est|ias|iar|rel|repeat_rel|int|guard|reset|reassembly) <1-999999>
```

Global attributes

Flag: !

This command applies immediately

Parameters

sccp-timer

Configure SCCP timer values, see ITU-T Q.714

conn_est

Waiting for connection confirm message, 1 to 2 minutes (default: 60)

ias

Send keep-alive: on an idle connection, delay before sending an Idle Timer message, 5 to 10 minutes (default: 420)

iar

Receive keep-alive: on an idle connection, delay until considering a connection as stale, 11 to 21 minutes (default: 900)

rel

Waiting for release complete message, 10 to 20 seconds (default: 10)

repeat_rel

Waiting for release complete message; or to repeat sending released message after the initial expiry, 10 to 20 seconds (default: 10)

int

Waiting for release complete message; or to release connection resources, freeze the LRN and alert a maintenance function after the initial expiry, extending to 1 minute (default: 60)

guard

Waiting to resume normal procedure for temporary connection sections during the restart procedure, 23 to 25 minutes (default: 1380)

reset

Waiting to release temporary connection section or alert maintenance function after reset request message is sent, 10 to 20 seconds (default: 10)

reassembly

Waiting to receive all the segments of the remaining segments, single segmented message after receiving the first segment, 10 to 20 seconds (default: 10)

<1-999999>

Timer value, in seconds

1.9.16 secondary-pc POINT_CODE

Command

```
secondary-pc POINT_CODE
```

Global attributes

Flag: !

This command applies immediately

Parameters

secondary-pc

Configure the local Secondary Point Code

POINT_CODE

Point Code

1.9.17 sls-opc-dpc [opc-shift] [<0-8>] [dpc-shift] [<0-8>]

Command

```
sls-opc-dpc [opc-shift] [<0-8>] [dpc-shift] [<0-8>]
```

Global attributes

Flag: !

This command applies immediately

Parameters

sls-opc-dpc

Shift OPC and DPC bits used during routing decision

[opc-shift]

Shift OPC bits used during routing decision

[<0-8>]

How many bits from ITU OPC field (starting from least-significant-bit) to skip (default=0). 6 bits are always used

[dpc-shift]

Shift DPC bits used during routing decision

[<0-8>]

How many bits from ITU DPC field (starting from least-significant-bit) to skip (default=0). 6 bits are always used

1.9.18 sls-shift <0-6>

Command

```
sls-shift <0-6>
```

Global attributes

Flag: !

This command applies immediately

Parameters

sls-shift

Shift SLS bits used during routing decision

<0-6>

How many bits from derivated 7-bit extended-SLS (OPC, DPC, SLS) field (starting from least-significant-bit) to skip

1.9.19 xua rkm routing-key-allocation (static-only|dynamic-permitted)

Command

```
xua rkm routing-key-allocation (static-only|dynamic-permitted)
```

Global attributes

Flag: !

This command applies immediately

Parameters

xua

SIGTRAN xxxUA related

rkm

Routing Key Management

routing-key-allocation

Routing Key Management Allocation Policy

static-only

Only static (pre-configured) Routing Keys permitted

dynamic-permitted

Dynamically allocate Routing Keys for what ASPs request

1.10 config-cs7-as

1.10.1 asp NAME

Command

```
asp NAME
```

Global attributes

Flag: !

This command applies immediately

Parameters

asp

Specify that a given ASP is part of this AS

NAME

Name of ASP to be added to AS

1.10.2 binding-table reset

Command

```
binding-table reset
```

Global attributes

Flag: !

This command applies immediately

Parameters

binding-table

AS Loadshare binding table operations

reset

Reset loadshare binding table

1.10.3 description .TEXT

Command

```
description .TEXT
```

Parameters

description

Save human-readable description of the object

.TEXT

Text until the end of the line

1.10.4 no asp NAME

Command

```
no asp NAME
```

Global attributes

Flag: !

This command applies immediately

Parameters

no

Negate a command or set its defaults

asp

Specify ASP to be removed from this AS

NAME

Name of ASP to be removed

1.10.5 no point-code override (opc|dpc)

Command

```
no point-code override (opc|dpc)
```

Global attributes

Flag: !

This command applies immediately

Parameters

no

Negate a command or set its defaults

point-code

Point Code Specific Features

override

Override (force) a point-code of messages received at the AS

opc

Override Source Point Code of received messages

dpc

Override Destination Point Code of received messages

1.10.6 no traffic-mode

Command

```
no traffic-mode
```

Parameters

no

Negate a command or set its defaults

traffic-mode

Remove explicit traffic mode of operation of this AS

1.10.7 point-code override (opc|dpc) PC

Command

```
point-code override (opc|dpc) PC
```

Global attributes

Flag: !

This command applies immediately

Parameters

point-code

Point Code Specific Features

override

Override (force) a point-code of messages received at the AS

opc

Override Source Point Code of received messages

dpc

Override Destination Point Code of received messages

PC

New Point Code

1.10.8 point-code override patch-sccp (disabled|both)

Command

```
point-code override patch-sccp (disabled|both)
```

Global attributes

Flag: !

This command applies immediately

Parameters

point-code

Point Code Specific Features

override

Override (force) a point-code to hard-coded value

patch-sccp

Patch point code values into SCCP called/calling address

disabled

Don't patch any point codes into SCCP called/calling address

both

Patch both origin and destination point codes into SCCP called/calling address

1.10.9 qos-class <0-7>

Command

```
qos-class <0-7>
```

Global attributes

Flag: !

This command applies immediately

Parameters

qos-class

Specity QoS Class of AS

<0-7>

QoS Class

1.10.10 recovery-timeout <1-2000>

Command

```
recovery-timeout <1-2000>
```

Global attributes

Flag: !

This command applies immediately

Parameters

recovery-timeout

Specifies RFC4666 recovery timer T(r) timeout

<1-2000>

Recovery Timeout in Milliseconds

1.10.11 routing-key RCONTEXT DPC

Command

```
routing-key RCONTEXT DPC
```

Global attributes

Flag: !

This command applies immediately

Parameters

routing-key

Define a routing key

RCONTEXT

Routing context number

DPC

Destination Point Code

1.10.12 routing-key RCONTEXT DPC si (aal2|bicc|b-isup|h248|isup|sat-isup|sccp|tup)

Command

```
routing-key RCONTEXT DPC si (aal2|bicc|b-isup|h248|isup|sat-isup|sccp|tup)
```

Global attributes

Flag: !

This command applies immediately

Parameters

routing-key

Define a routing key

RCONTEXT

Routing context number

DPC

Destination Point Code

si

Match on Service Indicator

aal2

ATM Adaption Layer 2

bicc

Bearer Independent Call Control

b-isup

Broadband ISDN User Part

h248

H.248

isup

ISDN User Part

sat-isup

Sattelite ISDN User Part

sccp

Signalling Connection Control Part

tup

Telephony User Part

1.10.13 routing-key RCONTEXT DPC si (aal2|bicc|b-isup|h248|isup|sat-isup|sccp|tup) ssn S...

Command

```
routing-key RCONTEXT DPC si (aal2|bicc|b-isup|h248|isup|sat-isup|sccp|tup) ssn SSN
```

Global attributes

Flag: !

This command applies immediately

Parameters

routing-key

Define a routing key

RCONTEXT

Routing context number

DPC

Destination Point Code

si

Match on Service Indicator

aal2

ATM Adaption Layer 2

bicc

Bearer Independent Call Control

b-isup

Broadband ISDN User Part

h248

H.248

isup

ISDN User Part

sat-isup

Sattelite ISDN User Part

sccp

Signalling Connection Control Part

tup

Telephony User Part

ssn

Match on Sub-System Number

SSN

Sub-System Number to match on

1.10.14 routing-key RCONTEXT DPC ssn SSN

Command

```
routing-key RCONTEXT DPC ssn SSN
```

Global attributes

Flag: !

This command applies immediately

Parameters

routing-key

Define a routing key

RCONTEXT

Routing context number

DPC

Destination Point Code

ssn

Match on Sub-System Number

SSN

Sub-System Number to match on

1.10.15 sls-shift <0-3>

Command

```
sls-shift <0-3>
```

Global attributes

Flag: !

This command applies immediately

Parameters

sls-shift

Shift SLS bits used during routing decision

<0-3>

How many bits from SLS field (starting from least-significant-bit) to skip

1.10.16 traffic-mode (broadcast | roundrobin | override)

Command

```
traffic-mode (broadcast | roundrobin | override)
```

Parameters

traffic-mode

Specifies traffic mode of operation of the ASP within the AS

broadcast

Broadcast to all ASP within AS

roundrobin

Round-Robin between all ASP within AS

override

Override

1.10.17 traffic-mode loadshare [bindings] [sls] [opc-sls] [opc-shift] [<0-2>]

Command

```
traffic-mode loadshare [bindings] [sls] [opc-sls] [opc-shift] [<0-2>]
```

Parameters

traffic-mode

Specifies traffic mode of operation of the ASP within the AS

loadshare

Share Load among all ASP within AS

[bindings]

Configure Loadshare parameters

[sls]

Configure Loadshare SLS generation parameters

[opc-sls]

Generate extended SLS with OPC information

[opc-shift]

Shift OPC bits used during routing decision

[<0-2>]

How many bits from ITU OPC field (starting from least-significant-bit) to skip (default=0). 6 bits are always used

1.11 config-cs7-asp

1.11.1 block

Command

```
block
```

Global attributes

Flag: @

This command applies on VTY node exit

Parameters

block

Allows a SCTP Association with ASP, but doesn't let it become active

1.11.2 description .TEXT

Command

```
description .TEXT
```

Parameters

description

Save human-readable description of the object

.TEXT

Text until the end of the line

1.11.3 local-ip (A.B.C.D|X:X::X:X) [primary]

Command

```
local-ip (A.B.C.D|X:X::X:X) [primary]
```

Global attributes

Flag: @

This command applies on VTY node exit

Parameters

local-ip

Specify Local IP Address from which to contact ASP

A.B.C.D

Local IPv4 Address from which to contact of ASP

X:X::X:X

Local IPv6 Address from which to contact of ASP

[primary]

Signal the SCTP peer to use this address as Primary Address

1.11.4 no local-ip (A.B.C.D|X:X::X:X)

Command

```
no local-ip (A.B.C.D|X:X::X:X)
```

Global attributes

Flag: @

This command applies on VTY node exit

Parameters

no

Negate a command or set its defaults

local-ip

Specify Local IP Address from which to contact ASP

A.B.C.D

Local IPv4 Address from which to contact of ASP

X:X::X:X

Local IPv6 Address from which to contact of ASP

1.11.5 no quirk (no_notify|daud_in_asp|snm_inactive)

Command

```
no quirk (no_notify|daud_in_asp|snm_inactive)
```

Global attributes

Flag: !

This command applies immediately

Parameters

no

Negate a command or set its defaults

quirk

Disable quirk to work around interop issues

no_notify

Peer SG doesn't send NTFY(AS-INACTIVE) after ASP-UP

daud_in_asp

Allow Rx of DAUD in ASP role

snm_inactive

Allow Rx of [S]SNM in AS-INACTIVE state

1.11.6 no remote-ip (A.B.C.D|X:X::X:X)

Command

```
no remote-ip (A.B.C.D|X:X::X:X)
```

Global attributes

Flag: @

This command applies on VTY node exit

Parameters

no

Negate a command or set its defaults

remote-ip

Specify Remote IP Address of ASP

A.B.C.D

Remote IPv4 Address of ASP

X:X::X:X

Remote IPv6 Address of ASP

1.11.7 no sctp-param init (num-ostreams|max-instreams|max-attempts|timeout)

Command

```
no sctp-param init (num-ostreams|max-instreams|max-attempts|timeout)
```

Global attributes

Flag: @

This command applies on VTY node exit

Parameters

no

Negate a command or set its defaults

sctp-param

Configure SCTP parameters

init

Configure INIT related parameters

num-ostreams

Configure INIT Number of Outbound Streams

max-instreams

Configure INIT Maximum Inboud Streams

max-attempts

Configure INIT Maximum Attempts

timeout

Configure INIT Timeout (milliseconds)

1.11.8 no shutdown

Command

```
no shutdown
```

Global attributes

Flag: @

This command applies on VTY node exit

Parameters

no

Negate a command or set its defaults

shutdown

Terminates SCTP association; New associations will be rejected

1.11.9 no tcp-param keepalive

Command

```
no tcp-param keepalive
```

Global attributes

Flag: @

This command applies on VTY node exit

Parameters

no

Negate a command or set its defaults

tcp-param

Configure TCP parameters

keepalive

Configure TCP keep-alive related parameters

1.11.10 no tcp-param keepalive (time|intvl|probes)

Command

```
no tcp-param keepalive (time|intvl|probes)
```

Global attributes

Flag: @

This command applies on VTY node exit

Parameters

no

Negate a command or set its defaults

tcp-param

Configure TCP parameters

keepalive

Configure TCP keep-alive related parameters

time

Configure number of seconds a connection needs to be idle before beginning to send probes

intvl

Configure number of seconds between probes

probes

Configure max number of probes to send before giving up if no response is obtained

1.11.11 no tcp-param user-timeout

Command

```
no tcp-param user-timeout
```

Global attributes

Flag: @

This command applies on VTY node exit

Parameters

no

Negate a command or set its defaults

tcp-param

Configure TCP parameters

user-timeout

Configure TCP User Timeout socket option (TCP_USER_TIMEOUT)

1.11.12 qos-class <0-7>

Command

```
qos-class <0-7>
```

Global attributes

Flag: @

This command applies on VTY node exit

Parameters

qos-class

Specify QoS Class of ASP

<0-7>

QoS Class

1.11.13 quirk (no_notify|daud_in_asp|snm_inactive)

Command

```
quirk (no_notify|daud_in_asp|snm_inactive)
```

Global attributes

Flag: !

This command applies immediately

Parameters

quirk

Enable quirk to work around interop issues

no_notify

Peer SG doesn't send NTFY(AS-INACTIVE) after ASP-UP

daud_in_asp

Allow Rx of DAUD in ASP role

snm_inactive

Allow Rx of [S]SNM in AS-INACTIVE state

1.11.14 remote-ip (A.B.C.D|X:X::X:X) [primary]

Command

```
remote-ip (A.B.C.D|X:X::X:X) [primary]
```

Global attributes

Flag: @

This command applies on VTY node exit

Parameters

remote-ip

Specify Remote IP Address of ASP

A.B.C.D

Remote IPv4 Address of ASP

X:X::X:X

Remote IPv6 Address of ASP

[primary]

Set remote address as SCTP Primary Address

1.11.15 role (sg|asp|ipsp)

Command

```
role (sg|asp|ipsp)
```

Global attributes

Flag: @

This command applies on VTY node exit

Parameters

role

Specify the xUA role for this ASP

sg

SG (Signaling Gateway)

asp

ASP (Application Server Process)

ipsp

IPSP (IP Signalling Point)

1.11.16 sctp-param init (num-ostreams|max-instreams|max-attempts|timeout) <0-65535>

Command

```
sctp-param init (num-ostreams|max-instreams|max-attempts|timeout) <0-65535>
```

Global attributes

Flag: @

This command applies on VTY node exit

Parameters

sctp-param

Configure SCTP parameters

init

Configure INIT related parameters

num-ostreams

Configure INIT Number of Outbound Streams

max-instreams

Configure INIT Maximum Inboud Streams

max-attempts

Configure INIT Maximum Attempts

timeout

Configure INIT Timeout (milliseconds)

<0-65535>

Value of the parameter

1.11.17 shutdown

Command

```
shutdown
```

Global attributes

Flag: @

This command applies on VTY node exit

Parameters

shutdown

Terminates SCTP association; New associations will be rejected

1.11.18 tcp-param keepalive (time|intvl|probes) <0-65535>

Command

```
tcp-param keepalive (time|intvl|probes) <0-65535>
```

Global attributes

Flag: @

This command applies on VTY node exit

Parameters

tcp-param

Configure TCP parameters

keepalive

Configure TCP keep-alive related parameters

time

Configure number of seconds a connection needs to be idle before beginning to send probes

intvl

Configure number of seconds between probes

probes

Configure max number of probes to send before giving up if no response is obtained

<0-65535>

Value of the parameter

1.11.19 tcp-param keepalive enabled

Command

```
tcp-param keepalive enabled
```

Global attributes

Flag: @

This command applies on VTY node exit

Parameters

tcp-param

Configure TCP parameters

keepalive

Configure TCP keep-alive related parameters

enabled

Enable TCP keep-alive

1.11.20 tcp-param user-timeout <0-65535>

Command

```
tcp-param user-timeout <0-65535>
```

Global attributes

Flag: @

This command applies on VTY node exit

Parameters

tcp-param

Configure TCP parameters

user-timeout

Configure TCP User Timeout socket option (TCP_USER_TIMEOUT)

<0-65535>

Value of the parameter

1.11.21 timer lm (wait_asp_up|wait_notify|wait_notify_rkm|wait_rk_reg_resp) <1-999999>

Command

```
timer lm (wait_asp_up|wait_notify|wait_notify_rkm|wait_rk_reg_resp) <1-999999>
```

Global attributes

Flag: !

This command applies immediately

Parameters

timer

Configure ASP default timer values

lm

Configure ASP default lm timer values

wait_asp_up

Restart ASP after timeout waiting for ASP UP (SG role) / ASP UP ACK (ASP role) (s) (default: 20)

wait_notify

Restart ASP after timeout waiting for NOTIFY (s) (default: 2)

wait_notify_rkm

Restart ASP after timeout waiting for NOTIFY after RKM registration (s) (default: 20)

wait_rk_reg_resp

Restart ASP after timeout waiting for RK_REG_RESP (s) (default: 10)

<1-999999>

Timer value, in seconds

1.11.22 timer xua (ack|beat) <1-999999>

Command

```
timer xua (ack|beat) <1-999999>
```

Global attributes

Flag: !

This command applies immediately

Parameters

timer

Configure ASP default timer values

xua

Configure ASP default xua timer values

ack

Resend ASP Up/Down/Active/Inactive after timeout waiting for ASP Up/Down/Active/Inactive ACK (ASP role)(s) (default: 2)

beat

Heartbeat Timer (0 = disabled) (s) (default: 30)

<1-999999>

Timer value, in seconds

1.11.23 transport-role (client|server)

Command

```
transport-role (client|server)
```

Global attributes

Flag: @

This command applies on VTY node exit

Parameters**transport-role**

Specify the transport layer role for this ASP

client

Operate as a client; connect to a server

server

Operate as a server; wait for client connections

1.12 config-cs7-sccpaddr

1.12.1 global-title

Command

```
global-title
```

Global attributes

Flag: !

This command applies immediately

Parameters**global-title**

Add/Modify Global Title

1.12.2 no global-title

Command

```
no global-title
```

Global attributes

Flag: !

This command applies immediately

Parameters

no

Negate a command or set its defaults

global-title

Remove Global Title

1.12.3 no point-code

Command

```
no point-code
```

Global attributes

Flag: !

This command applies immediately

Parameters

no

Negate a command or set its defaults

point-code

Remove point-code Number

1.12.4 no subsystem-number

Command

```
no subsystem-number
```

Global attributes

Flag: !

This command applies immediately

Parameters

no

Negate a command or set its defaults

subsystem-number

Remove Subsystem Number

1.12.5 point-code POINT_CODE

Command

```
point-code POINT_CODE
```

Global attributes

Flag: !

This command applies immediately

Parameters

point-code

Add point-code Number

POINT_CODE

PC

1.12.6 routing-indicator (GT|PC|IP)

Command

```
routing-indicator (GT|PC|IP)
```

Global attributes

Flag: !

This command applies immediately

Parameters

routing-indicator

Add Routing Indicator

GT

by global-title

PC

by point-code

IP

by ip-address

1.12.7 subsystem-number <0-4294967295>

Command

```
subsystem-number <0-4294967295>
```

Global attributes

Flag: !

This command applies immediately

Parameters

subsystem-number

Add Subsystem Number

<0-4294967295>

SSN

1.13 config-cs7-sccpaddr-gt

1.13.1 digits DIGITS

Command

```
digits DIGITS
```

Global attributes

Flag: !

This command applies immediately

Parameters

digits

Set Global Title Digits

DIGITS

Number digits

1.13.2 global-title-indicator <0-15>

Command

```
global-title-indicator <0-15>
```

Global attributes

Flag: !

This command applies immediately

Parameters

global-title-indicator

Set Global Title Indicator

<0-15>

GTI

1.13.3 nature-of-address-indicator <0-127>

Command

```
nature-of-address-indicator <0-127>
```

Global attributes

Flag: !

This command applies immediately

Parameters

nature-of-address-indicator

Set Global Title Nature of Address Indicator

<0-127>

NAI

1.13.4 numbering-plan-indicator <0-15>

Command

```
numbering-plan-indicator <0-15>
```

Global attributes

Flag: !

This command applies immediately

Parameters

numbering-plan-indicator

Set Global Title Numbering Plan Indicator

<0-15>

NPI

1.13.5 translation-type <0-255>

Command

```
translation-type <0-255>
```

Global attributes

Flag: !

This command applies immediately

Parameters

translation-type

Set Global Title Translation Type

<0-255>

TT

1.14 config-hnbgw

1.14.1 hnb UMTS_CELL_ID

Command

```
hnb UMTS_CELL_ID
```

Parameters

hnb

hNodeB specific configuration

UMTS_CELL_ID

Identity of hNodeB in xxx-yyy-Llac-Rrac-Ssac-Ccid format

1.14.2 hnb-policy (accept-all|closed)

Command

```
hnb-policy (accept-all|closed)
```

Parameters

hnb-policy

Configure the policy of which HNB connections to accept

accept-all

Accept HNB of any identity

closed

Accept only HNB whose identity is explicitly configured via VTY

1.14.3 iucs

Command

```
iucs
```

Parameters

iucs

Configure IuCS options

1.14.4 iuh

Command

```
iuh
```

Parameters

iuh

Configure Iuh options

1.14.5 iups

Command

```
iups
```

Parameters

iups

Configure IuPS options

1.14.6 log-prefix (hnb-id|umts-cell-id)

Command

```
log-prefix (hnb-id|umts-cell-id)
```

Parameters

log-prefix

Configure the log message prefix

hnb-id

Use the hNB-ID as log message prefix

umts-cell-id

Use the UMTS Cell ID as log message prefix

1.14.7 mgcp

Command

```
mgcp
```

Parameters

mgcp

Configure MGCP client

1.14.8 mgw <0-255>

Command

```
mgw <0-255>
```

Global attributes

Flag: !

This command applies immediately

Parameters

mgw

Select a MGCP client config to setup

<0-255>

reference number

1.14.9 nft-kpi [TABLE_NAME]

Command

```
nft-kpi [TABLE_NAME]
```

Parameters

nft-kpi

Retrieve traffic counters from nftables

[TABLE_NAME]

Set a custom nft table name to use, instead of 'osmo-hnbgw'

1.14.10 no hnb IDENTITY_INFO

Command

```
no hnb IDENTITY_INFO
```

Parameters

no

Negate a command or set its defaults

hnb

Remove configuration for specified hNodeB

IDENTITY_INFO

Identity of hNodeB

1.14.11 no mgw <0-255>

Command

```
no mgw <0-255>
```

Global attributes

Flag: !

This command applies immediately

Parameters

no

Negate a command or set its defaults

mgw

Select a MGCP client config to remove

<0-255>

reference number

1.14.12 no nft-kpi

Command

```
no nft-kpi
```

Parameters

no

Negate a command or set its defaults

nft-kpi

Retrieve traffic counters from nftables

1.14.13 pfcf

Command

```
pfcf
```

Parameters

pfcf

Configure PFCF for GTP tunnel mapping

1.14.14 plmn <1-999> <0-999>

Command

```
plmn <1-999> <0-999>
```

Parameters

plmn

Configure the HNBGW's PLMN. The PLMN is transmitted in RANAP RESET towards the CN.

<1-999>

MCC, Mobile Country Code

<0-999>

MNC, Mobile Network Code

1.14.15 rnc-id <0-65535>

Command

```
rnc-id <0-65535>
```

Parameters

rnc-id

Configure the HNBGW's RNC Id, the common RNC Id used for all connected hNodeB. It is sent to each hNodeB upon HNBAP HNB-Register-Accept, and the hNodeB will subsequently send this as RANAP InitialUE Messages' GlobalRNC-ID IE. Takes effect as soon as the hNodeB re-registers.

<0-65535>

RNC Id value

1.14.16 timer [(mgw|hnbgw|pfcf)] [TNNNN] [(<0-2147483647>|default)]

Command

```
timer [ (mgw|hnbgw|pfcf) ] [TNNNN] [ (<0-2147483647>|default) ]
```

Parameters

timer

Configure or show timers

[mgw]

MGW (Media Gateway) interface

[hnbgw]

Timers

[pfcf]

PFCE timers

[TNNNN]

T- or X-timer-number -- 3GPP compliant timer number of the format '1234' or 'T1234' or 't1234'; Osmocom-specific timer number of the format: 'X1234' or 'x1234'.

[<0-2147483647>]

New timer value

[default]

Set to default timer value

1.15 config-hnbgw-hnb

1.16 config-hnbgw-iuh

1.16.1 hnbap-allow-tmsi (0|1)

Command

```
hnbap-allow-tmsi (0|1)
```

Parameters

hnbap-allow-tmsi

Allow HNBAP UE Register messages with TMSI or PTMSI identity

0

Only accept IMSI identity, reject TMSI or PTMSI

1

Accept IMSI, TMSI or PTMSI as UE identity (default)

1.16.2 local-ip A.B.C.D

Command

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

Parameters

local-ip

Accept Iuh connections on local interface

A.B.C.D

Local interface IP address (default: 0.0.0.0)

1.16.3 local-port <1-65535>

Command

```
local-port <1-65535>
```

Parameters

local-port

Accept Iuh connections on local port

<1-65535>

Local interface port (default: 29169)

1.17 config-hnbgw-iucs

1.17.1 nri bitlen <1-15>

Command

```
nri bitlen <1-15>
```

Parameters

nri

Mapping of Network Resource Indicators to this CN peer, for CN pooling

bitlen

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

<1-15>

bit count (default: 10)

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

Command

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

Parameters

nri

Mapping of Network Resource Indicators to this CN peer, for CN pooling

null

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

add

Add NULL-NRI value (or range)

<0-32767>

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

[<0-32767>]

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

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

Command

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

Parameters

nri

Mapping of Network Resource Indicators to this CN peer, for CN pooling

null

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

del

Remove NRI value or range from the NRI mapping for this CN link

<0-32767>

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

[<0-32767>]

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

1.18 config-hnbgw-iups

1.18.1 nri bitlen <1-15>

Command

```
nri bitlen <1-15>
```

Parameters

nri

Mapping of Network Resource Indicators to this CN peer, for CN pooling

bitlen

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

<1-15>

bit count (default: 10)

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

Command

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

Parameters

nri

Mapping of Network Resource Indicators to this CN peer, for CN pooling

null

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

add

Add NULL-NRI value (or range)

<0-32767>

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

[<0-32767>]

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

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

Command

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

Parameters

nri

Mapping of Network Resource Indicators to this CN peer, for CN pooling

null

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

del

Remove NRI value or range from the NRI mapping for this CN link

<0-32767>

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

[<0-32767>]

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

1.19 config-hnbgw-mgcp

1.19.1 keepalive request-endpoint NAME

Command

```
keepalive request-endpoint NAME
```

Parameters

keepalive

Monitor if the MGCP link against MGW is still usable

request-endpoint

Use a given endpoint name when sending an MGCP command to the MGW for keepalive purposes

NAME

The name of the endpoint to use

1.19.2 keepalive request-interval <0-4294967295>

Command

```
keepalive request-interval <0-4294967295>
```

Parameters

keepalive

Monitor if the MGCP link against MGW is still usable

request-interval

Send an MGCP command to the MGW at given interval if no other commands are sent

<0-4294967295>

The interval at which send MGCP commands (s), 0 to disable

1.19.3 keepalive timeout <0-4294967295>

Command

```
keepalive timeout <0-4294967295>
```

Parameters

keepalive

Monitor if the MGCP link against MGW is still usable

timeout

Consider the link to the MGW to be down after time without receiving any message from it

<0-4294967295>

The timeout (s), 0 to disable

1.20 config-mgw

1.20.1 description .TEXT

Command

```
description .TEXT
```

Parameters

description

Save human-readable description of the object

.TEXT

Text until the end of the line

1.20.2 endpoint-domain NAME

Command

```
endpoint-domain NAME
```

Parameters

endpoint-domain

Set the domain name to send in MGCP messages, e.g. the part 'foo' in 'rtpbridge/*@foo'.

NAME

Domain name, should be alphanumeric.

1.20.3 keepalive request-endpoint NAME

Command

```
keepalive request-endpoint NAME
```

Parameters

keepalive

Monitor if the MGCP link against MGW is still usable

request-endpoint

Use a given endpoint name when sending an MGCP command to the MGW for keepalive purposes

NAME

The name of the endpoint to use

1.20.4 keepalive request-interval <0-4294967295>

Command

```
keepalive request-interval <0-4294967295>
```

Parameters

keepalive

Monitor if the MGCP link against MGW is still usable

request-interval

Send an MGCP command to the MGW at given interval if no other commands are sent

<0-4294967295>

The interval at which send MGCP commands (s), 0 to disable

1.20.5 keepalive timeout <0-4294967295>

Command

```
keepalive timeout <0-4294967295>
```

Parameters

keepalive

Monitor if the MGCP link against MGW is still usable

timeout

Consider the link to the MGW to be down after time without receiving any message from it

<0-4294967295>

The timeout (s), 0 to disable

1.20.6 local-ip (A.B.C.D|X:X::X:X)

Command

```
local-ip (A.B.C.D|X:X::X:X)
```

Parameters

local-ip

local bind to connect to MGW from

A.B.C.D

local bind IPv4 address

X:X::X:X

local bind IPv6 address

1.20.7 local-port <0-65535>

Command

```
local-port <0-65535>
```

Parameters

local-port

local port to connect to MGW from

<0-65535>

local bind port

1.20.8 no reset-endpoint NAME

Command

```
no reset-endpoint NAME
```

Parameters

no

Negate a command or set its defaults

reset-endpoint

remove an endpoint name from the reset-endpoint list, e.g. 'rtpbridge/*'

NAME

Endpoint name, e.g. 'rtpbridge/*' or 'ds/e1-0/s-3/su16-4'.

1.20.9 remote-ip (A.B.C.D|X:X::X:X)

Command

```
remote-ip (A.B.C.D|X:X::X:X)
```

Parameters

remote-ip

remote IP address to reach the MGW at

A.B.C.D

remote IPv4 address

X:X::X:X

remote IPv6 address

1.20.10 remote-port <0-65535>

Command

```
remote-port <0-65535>
```

Parameters

remote-port

remote port to reach the MGW at

<0-65535>

remote port

1.20.11 reset-endpoint NAME

Command

```
reset-endpoint NAME
```

Parameters

reset-endpoint

Add an endpoint name that should be reset (DLCX) on connect to the reset-endpoint list,e.g. 'rtpbridge/*'

NAME

Endpoint name, e.g. 'rtpbridge/*' or 'ds/e1-0/s-3/su16-4'.

1.21 config-hnbgw-pfcp

1.21.1 local-addr IP_ADDR

Command

```
local-addr IP_ADDR
```

Parameters

local-addr

Local address for PFCP

IP_ADDR

IP address

1.21.2 local-port <1-65535>

Command

```
local-port <1-65535>
```

Parameters

local-port

Local port for PFCP

<1-65535>

UDP port

1.21.3 netinst (access|core) NAME

Command

```
netinst (access|core) NAME
```

Parameters

netinst

Add a Network Instance IE to all outgoing PFCP rule sets, so that the UPF may choose the correct interface to open GTP tunnels on.

access

Set the Network Instance name for the access side (towards RAN).

core

Set the Network Instance name for the core side.

NAME

The Network Instance name as a dotted string, typically a domain name like 'ran23.example.com'. A matching osmo-upf.cfg could be: 'netinst' / 'add ran23.example.com 10.0.0.23'. See 3GPP TS 29.244 8.2.4.

1.21.4 remote-addr IP_ADDR

Command

```
remote-addr IP_ADDR
```

Parameters

remote-addr

Remote UPF's listen IP address; where to send PFCP requests

IP_ADDR

IP address

1.22 config-msc

1.22.1 allow-attach

Command

```
allow-attach
```

Global attributes

Flag: !

This command applies immediately

Parameters

allow-attach

Allow this CN link to attach new subscribers (default).

1.22.2 allow-emergency

Command

```
allow-emergency
```

Global attributes

Flag: !

This command applies immediately

Parameters

allow-emergency

Allow CM ServiceRequests with type emergency on this CN link

1.22.3 apply sccp

Command

```
apply sccp
```

Parameters

apply

Immediately use configuration modified via telnet VTY, and restart components as needed.

sccp

For telnet VTY: apply SCCP and NRI config changes made to this CN link in the running osmo-hnbgw process. If 'remote-addr' changed, related SCCP links will be restarted, possibly dropping active UE contexts. This is run implicitly on program startup, only useful to apply changes made later via telnet VTY.

1.22.4 name NAME

Command

```
name NAME
```

Parameters

name

Set user defined name for this msc/sgsn

NAME

The user defined name to be set for this msc/sgsn

1.22.5 no allow-attach

Command

```
no allow-attach
```

Global attributes

Flag: !

This command applies immediately

Parameters

no

Negate a command or set its defaults

allow-attach

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

1.22.6 no allow-emergency

Command

```
no allow-emergency
```

Global attributes

Flag: !

This command applies immediately

Parameters

no

Negate a command or set its defaults

allow-emergency

Do not serve CM ServiceRequests with type emergency on this CN link

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

Command

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

Global attributes

Flag: !

This command applies immediately

Parameters

nri

Mapping of Network Resource Indicators to this CN peer, for CN pooling

add

Add NRI value or range to the NRI mapping for this CN link

<0-32767>

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

[<0-32767>]

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

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

Command

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

Global attributes

Flag: !

This command applies immediately

Parameters

nri

Mapping of Network Resource Indicators to this CN peer, for CN pooling

del

Remove NRI value or range from the NRI mapping for this CN link

<0-32767>

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

[<0-32767>]

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

1.22.9 remote-addr NAME

Command

```
remote-addr NAME
```

Parameters

remote-addr

SCCP address to send RANAP/SCCP to

NAME

SCCP address book entry name (see 'cs7 instance' / 'sccp-address')

1.22.10 show nri

Command

```
show nri
```

Parameters

show

Show running system information

nri

Mapping of Network Resource Indicators to this CN peer, for CN pooling

1.23 config-sgsn

1.23.1 allow-attach

Command

```
allow-attach
```

Global attributes

Flag: !

This command applies immediately

Parameters

allow-attach

Allow this CN link to attach new subscribers (default).

1.23.2 allow-emergency

Command

```
allow-emergency
```

Global attributes

Flag: !

This command applies immediately

Parameters

allow-emergency

Allow CM ServiceRequests with type emergency on this CN link

1.23.3 apply sccp

Command

```
apply sccp
```

Parameters

apply

Immediately use configuration modified via telnet VTY, and restart components as needed.

sccp

For telnet VTY: apply SCCP and NRI config changes made to this CN link in the running osmo-hnbgw process. If 'remote-addr' changed, related SCCP links will be restarted, possibly dropping active UE contexts. This is run implicitly on program startup, only useful to apply changes made later via telnet VTY.

1.23.4 name NAME

Command

```
name NAME
```

Parameters

name

Set user defined name for this msc/sgsn

NAME

The user defined name to be set for this msc/sgsn

1.23.5 no allow-attach

Command

```
no allow-attach
```

Global attributes

Flag: !

This command applies immediately

Parameters

no

Negate a command or set its defaults

allow-attach

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

1.23.6 no allow-emergency

Command

```
no allow-emergency
```

Global attributes

Flag: !

This command applies immediately

Parameters

no

Negate a command or set its defaults

allow-emergency

Do not serve CM ServiceRequests with type emergency on this CN link

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

Command

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

Global attributes

Flag: !

This command applies immediately

Parameters

nri

Mapping of Network Resource Indicators to this CN peer, for CN pooling

add

Add NRI value or range to the NRI mapping for this CN link

<0-32767>

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

[<0-32767>]

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

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

Command

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

Global attributes

Flag: !

This command applies immediately

Parameters

nri

Mapping of Network Resource Indicators to this CN peer, for CN pooling

del

Remove NRI value or range from the NRI mapping for this CN link

<0-32767>

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

[<0-32767>]

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

1.23.9 remote-addr NAME

Command

```
remote-addr NAME
```

Parameters

remote-addr

SCCP address to send RANAP/SCCP to

NAME

SCCP address book entry name (see 'cs7 instance' / 'sccp-address')

1.23.10 show nri

Command

```
show nri
```

Parameters

show

Show running system information

nri

Mapping of Network Resource Indicators to this CN peer, for CN pooling