

OsmoGbProxy VTY Reference

Copyright © 2019

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

COLLABORATORS

	<i>TITLE :</i> OsmoGbProxy VTY Reference		
<i>ACTION</i>	<i>NAME</i>	<i>DATE</i>	<i>SIGNATURE</i>
WRITTEN BY		March 21, 2023	

REVISION HISTORY

NUMBER	DATE	DESCRIPTION	NAME
v1	2nd December 2019	Initial	hw

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	4
1.2	view	5
1.2.1	enable [expert-mode]	5
1.2.2	logging color (0 1)	5
1.2.3	logging disable	5
1.2.4	logging enable	6
1.2.5	logging filter all (0 1)	6
1.2.6	logging filter bvc bvci <0-65535>	6
1.2.7	logging level (lgprslnsobjllgloballllapdllinpllmuxllmillmibllsmsllctrlllgtpllst...	7
1.2.8	logging level force-all (debug info notice error fatal)	9
1.2.9	logging level set-all (debug info notice error fatal)	10
1.2.10	logging print category (0 1)	10
1.2.11	logging print category-hex (0 1)	11
1.2.12	logging print extended-timestamp (0 1)	11
1.2.13	logging print file (0 1 basename) [last]	12
1.2.14	logging print level (0 1)	12
1.2.15	logging print thread-id (0 1)	13
1.2.16	logging set-log-mask MASK	13

1.2.17	logging timestamp (0 1)	13
1.2.18	logp (lgprs nslobj lglobal lapd linp lmux lmill mibl sms lctrl lgtpl stats lgsup...	14
1.2.19	no logging level force-all	16
1.2.20	show alarms	16
1.2.21	show asciidoc counters	17
1.2.22	show fsm NAME	17
1.2.23	show fsm all	17
1.2.24	show fsm-instances NAME	18
1.2.25	show fsm-instances all	18
1.2.26	show gbproxy bvc (bss sgsn) [stats]	18
1.2.27	show gbproxy cell [stats]	19
1.2.28	show gbproxy imsi-cache	19
1.2.29	show gbproxy links	20
1.2.30	show gbproxy tlli-cache	20
1.2.31	show history	20
1.2.32	show logging vty	21
1.2.33	show nri all	21
1.2.34	show nri nsei <0-65535>	21
1.2.35	show online-help	22
1.2.36	show pid	22
1.2.37	show rate-counters [skip-zero]	22
1.2.38	show stats [skip-zero]	23
1.2.39	show stats level (global peer subscriber) [skip-zero]	23
1.2.40	show talloc-context (application global all) (full brief DEPTH)	24
1.2.41	show talloc-context (application global all) (full brief DEPTH) filter REGEXP	24
1.2.42	show talloc-context (application global all) (full brief DEPTH) tree ADDRESS	25
1.2.43	show uptime	26
1.2.44	show version	26
1.2.45	terminal length <0-512>	26
1.2.46	terminal no length	27
1.2.47	who	27
1.3	enable	27
1.3.1	configure terminal	27
1.3.2	copy running-config startup-config	28
1.3.3	delete-gbproxy-peer <0-65534> (only-bvc only-nsvcl all) [dry-run]	28
1.3.4	delete-gbproxy-peer <0-65534> bvci <2-65534>	28
1.3.5	disable	29
1.3.6	logging color (0 1)	29
1.3.7	logging disable	29

1.3.8	logging enable	30
1.3.9	logging filter all (01)	30
1.3.10	logging filter bvc bvci <0-65535>	30
1.3.11	logging level (lgprslnslobjllgloballllapdllinpllmuxllmillmibllsmsllctrlllgtpllst...	31
1.3.12	logging level force-all (debuglnfolnoticeerrorlfatal)	33
1.3.13	logging level set-all (debuglnfolnoticeerrorlfatal)	34
1.3.14	logging print category (01)	34
1.3.15	logging print category-hex (01)	35
1.3.16	logging print extended-timestamp (01)	35
1.3.17	logging print file (01 basename) [last]	36
1.3.18	logging print level (01)	36
1.3.19	logging print thread-id (01)	37
1.3.20	logging set-log-mask MASK	37
1.3.21	logging timestamp (01)	37
1.3.22	logp (lgprslnslobjllgloballllapdllinpllmuxllmillmibllsmsllctrlllgtpllstatslgsup...	38
1.3.23	no logging level force-all	40
1.3.24	show alarms	40
1.3.25	show asciidoc counters	41
1.3.26	show fsm NAME	41
1.3.27	show fsm all	41
1.3.28	show fsm-instances NAME	42
1.3.29	show fsm-instances all	42
1.3.30	show gbproxy bvc (bsslsgsn) [stats]	42
1.3.31	show gbproxy cell [stats]	43
1.3.32	show gbproxy imsi-cache	43
1.3.33	show gbproxy links	44
1.3.34	show gbproxy tlli-cache	44
1.3.35	show history	44
1.3.36	show logging vty	45
1.3.37	show nri all	45
1.3.38	show nri nsei <0-65535>	45
1.3.39	show online-help	46
1.3.40	show rate-counters [skip-zero]	46
1.3.41	show startup-config	46
1.3.42	show stats [skip-zero]	47
1.3.43	show stats level (globalpeer subscriber) [skip-zero]	47
1.3.44	show talloc-context (application global all) (full brief DEPTH)	48
1.3.45	show talloc-context (application global all) (full brief DEPTH) filter REGEXP	48
1.3.46	show talloc-context (application global all) (full brief DEPTH) tree ADDRESS	49

1.3.47	show version	50
1.3.48	shutdown	50
1.3.49	stats report	50
1.3.50	stats reset	50
1.3.51	terminal length <0-512>	51
1.3.52	terminal monitor	51
1.3.53	terminal no length	51
1.3.54	terminal no monitor	52
1.3.55	who	52
1.4	config	52
1.4.1	banner motd default	52
1.4.2	banner motd file [FILE]	53
1.4.3	enable password (8l) WORD	53
1.4.4	enable password LINE	53
1.4.5	gbproxy	54
1.4.6	hostname WORD	54
1.4.7	line vty	54
1.4.8	log alarms <2-32700>	54
1.4.9	log file FILENAME [blocking-io]	55
1.4.10	log gsmtp [HOSTNAME]	55
1.4.11	log stderr [blocking-io]	55
1.4.12	log syslog (authpriv cron daemon ftp lpr mail news user uucp)	56
1.4.13	log syslog local <0-7>	56
1.4.14	log systemd-journal [raw]	57
1.4.15	no banner motd	57
1.4.16	no enable password	57
1.4.17	no hostname [HOSTNAME]	58
1.4.18	no log alarms	58
1.4.19	no log file FILENAME	58
1.4.20	no log gsmtp [HOSTNAME]	59
1.4.21	no log stderr	59
1.4.22	no log syslog	59
1.4.23	no log systemd-journal	60
1.4.24	no service advanced-vty	60
1.4.25	no service terminal-length [<0-512>]	60
1.4.26	no stats reporter log [NAME]	61
1.4.27	no stats reporter statsd [NAME]	61
1.4.28	password (8l) WORD	62
1.4.29	password LINE	62

1.4.30	service advanced-vty	62
1.4.31	service terminal-length <0-512>	63
1.4.32	sgsn nsei <0-65534>	63
1.4.33	show history	63
1.4.34	stats interval <0-65535>	64
1.4.35	stats reporter log [NAME]	64
1.4.36	stats reporter statsd [NAME]	64
1.4.37	stats-tcp batch-size <1-65535>	65
1.4.38	stats-tcp interval <0-65535>	65
1.5	config-log	65
1.5.1	logging color (01)	65
1.5.2	logging filter all (01)	66
1.5.3	logging level (lgprslnsobjllgloballllapdllinpllmuxllmillmibllsmsllctrlllgtpllst...	66
1.5.4	logging level force-all (debuglinfofnoticeerrorfatal)	69
1.5.5	logging level set-all (debuglinfofnoticeerrorfatal)	69
1.5.6	logging print category (01)	70
1.5.7	logging print category-hex (01)	70
1.5.8	logging print extended-timestamp (01)	71
1.5.9	logging print file (01 basename) [last]	71
1.5.10	logging print level (01)	72
1.5.11	logging print thread-id (01)	72
1.5.12	logging timestamp (01)	73
1.5.13	no logging level force-all	73
1.6	config-stats	73
1.6.1	disable	73
1.6.2	enable	74
1.6.3	flush-period <0-65535>	74
1.6.4	level (globalpeer subscriber)	74
1.6.5	local-ip ADDR	75
1.6.6	mtu <100-65535>	75
1.6.7	no local-ip	75
1.6.8	no mtu	75
1.6.9	no prefix	76
1.6.10	prefix PREFIX	76
1.6.11	remote-ip ADDR	76
1.6.12	remote-port <1-65535>	76
1.7	config-line	77
1.7.1	bind A.B.C.D [<0-65535>]	77
1.7.2	login	77

1.7.3	no login	77
1.8	config-gbproxy	77
1.8.1	nri bitlen <0-15>	78
1.8.2	nri null add <0-32767> [<0-32767>]	78
1.8.3	nri null del <0-32767> [<0-32767>]	79
1.8.4	pool bvc-flow-control-ratio <1-100>	79
1.9	config-sgsn	80
1.9.1	allow-attach	80
1.9.2	name NAME	80
1.9.3	no allow-attach	80
1.9.4	nri add <0-32767> [<0-32767>]	81
1.9.5	nri del <0-32767> [<0-32767>]	81

List of Tables

1.1	VTY Parameter Patterns	1
1.2	VTY port numbers	1

Chapter 1

VTY reference

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

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

Table 1.1: VTY Parameter Patterns

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

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

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

Table 1.2: VTY port numbers

1.1 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

vtty-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

vtty-attributes

List of VTY attributes

application

Application specific attributes only

library

Library specific attributes only

global

Global attributes only

1.1.8 write

Command

```
write
```

Parameters

write

Write running configuration to memory, network, or terminal

1.1.9 write file [PATH]

Command

```
write file [PATH]
```

Parameters

write

Write running configuration to memory, network, or terminal

file

Write to configuration file

[PATH]

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

1.1.10 write memory

Command

```
write memory
```

Parameters

write

Write running configuration to memory, network, or terminal

memory

Write configuration to the file (same as write file)

1.1.11 write terminal

Command

```
write terminal
```

Parameters

write

Write running configuration to memory, network, or terminal

terminal

Write to terminal

1.2 view

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

1.2.1 enable [expert-mode]

Command

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

Parameters

enable

Turn on privileged mode command

[expert-mode]

Enable the expert mode (show hidden commands)

1.2.2 logging color (0|1)

Command

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

Parameters

logging

Configure logging

color

Configure color-printing for log messages

0

Don't use color for printing messages

1

Use color for printing messages

1.2.3 logging disable

Command

```
logging disable
```

Parameters

logging

Configure logging

disable

Disables logging to this vty

1.2.4 logging enable

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

Command

```
logging enable
```

Parameters

logging

Configure logging

enable

Enables logging to this vty

1.2.5 logging filter all (0|1)

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

Command

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

Parameters

logging

Configure logging

filter

Filter log messages

all

Do you want to log all messages?

0

Only print messages matched by other filters

1

Bypass filter and print all messages

1.2.6 logging filter bvc bvci <0-65535>

Command

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

Parameters

logging

Configure logging

filter

Filter log messages

bvc

Filter based on BSSGP VC

bvci

Identify BVC by BVCI

<0-65535>

Numeric identifier

1.2.7 logging level (|gprs|ns|obj|lglobal|llapd|linp|lmux|lmi|lmib|lsms|lctrl|lgtp|lst...**Command**

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

Parameters**logging**

Configure logging

level

Set the log level for a specified category

gprs

GPRS Packet Service

ns

GPRS Network Service (NS)

obj

GbProxy object allocation/release

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

lscpp
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

lnsignal
GPRS NS layer signal PDU

liuup
Iu UP layer

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

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

Command

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

Parameters

logging

Configure logging

level

Set the log level for a specified category

force-all

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

debug

Log debug messages and higher levels

info

Log informational messages and higher levels

notice

Log noticeable messages and higher levels

error

Log error messages and higher levels

fatal

Log only fatal messages

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

Command

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

Parameters

logging

Configure logging

level

Set the log level for a specified category

set-all

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

debug

Log debug messages and higher levels

info

Log informational messages and higher levels

notice

Log noticeable messages and higher levels

error

Log error messages and higher levels

fatal

Log only fatal messages

1.2.10 logging print category (0|1)

Command

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

Parameters

logging

Configure logging

print

Log output settings

category

Configure log message

0

Don't prefix each log message

1

Prefix each log message with category/subsystem name

1.2.11 logging print category-hex (0|1)

Command

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

Parameters

logging

Configure logging

print

Log output settings

category-hex

Configure log message

0

Don't prefix each log message

1

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

1.2.12 logging print extended-timestamp (0|1)

Command

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

Parameters

logging

Configure logging

print

Log output settings

extended-timestamp

Configure log message timestamping

0

Don't prefix each log message

1

Prefix each log message with current timestamp with YYYYMMDDhhmmssnnn

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

Command

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

Parameters

logging

Configure logging

print

Log output settings

file

Configure log message

0

Don't prefix each log message

1

Prefix each log message with the source file and line

basename

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

[last]

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

1.2.14 logging print level (0|1)

Command

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

Parameters

logging

Configure logging

print

Log output settings

level

Configure log message

0

Don't prefix each log message

1

Prefix each log message with the log level name

1.2.15 logging 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

1.2.16 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

1.2.17 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

1.2.18 logp ([gprs|ns|obj|lglobal|llapd|linp|lmux|lmi|lmib|lsms|lctrl|lgtp|lstats|lgsup...**Command**

```
logp ([gprs|ns|obj|lglobal|llapd|linp|lmux|lmi|lmib|lsms|lctrl|lgtp|lstats|lgsup|loap|↔
      lss7|lscdp|lsua|lm3ua|lmgcp|ljibuf|lrspro|lns|lbssgp|lndata|lnssignal|liuup|lpfcp|↔
      lcsnl) (debug|info|notice|error|fatal) .LOGMESSAGE
```

Parameters**logp**

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

gprs

GPRS Packet Service

ns

GPRS Network Service (NS)

obj

GbProxy object allocation/release

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

lscpp
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

lnsignal
GPRS NS layer signal PDU

liuup
Iu UP layer

lpfcp
libosmo-pfcp Packet Forwarding Control Protocol

lcsn1
libosmo-csn1 Concrete Syntax Notation 1 codec

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

1.2.19 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>'

1.2.20 show alarms

Command

```
show alarms
```

Parameters

show

Show running system information

alarms

Show current logging configuration

1.2.21 show asciidoc counters

Command

```
show asciidoc counters
```

Parameters

show

Show running system information

asciidoc

Asciidoc generation

counters

Generate table of all registered counters

1.2.22 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

1.2.23 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

1.2.24 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

1.2.25 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

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

Command

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

Parameters

show

Show running system information

gbproxy

Display information about the Gb proxy

bvc

Show BSSGP Virtual Connections

bss

Display BSS-side BVCs

sgsn

Display SGSN-side BVCs

[stats]

Show statistics

1.2.27 show gbproxy cell [stats]

Command

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

Parameters

show

Show running system information

gbproxy

Display information about the Gb proxy

cell

Show GPRS Cell Information

[stats]

Show statistics

1.2.28 show gbproxy imsi-cache

Command

```
show gbproxy imsi-cache
```

Parameters

show

Show running system information

gbproxy

Display information about the Gb proxy

imsi-cache

Show IMSI cache entries

1.2.29 show gbproxy links

Command

```
show gbproxy links
```

Parameters

show

Show running system information

gbproxy

Display information about the Gb proxy

links

Show logical links

1.2.30 show gbproxy tlli-cache

Command

```
show gbproxy tlli-cache
```

Parameters

show

Show running system information

gbproxy

Display information about the Gb proxy

tlli-cache

Show TLLI cache entries

1.2.31 show history

Command

```
show history
```

Parameters

show

Show running system information

history

Display the session command history

1.2.32 show logging vty

Command

```
show logging vty
```

Parameters

show

Show running system information

logging

Show current logging configuration

vtv

Show current logging configuration for this vty

1.2.33 show nri all

Command

```
show nri all
```

Parameters

show

Show running system information

nri

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

all

Show all SGSNs

1.2.34 show nri nsei <0-65535>

Command

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

Parameters

show

Show running system information

nri

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

nsei

Identify SGSN by NSEI

<0-65535>

NSEI of the SGSN

1.2.35 show online-help

Command

```
show online-help
```

Parameters

show

Show running system information

online-help

Online help

1.2.36 show pid

Command

```
show pid
```

Parameters

show

Show running system information

pid

Displays the process ID

1.2.37 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

1.2.38 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

1.2.39 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

1.2.40 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

1.2.41 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

1.2.42 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)

1.2.43 show uptime

Command

```
show uptime
```

Parameters

show

Show running system information

uptime

Displays how long the program has been running

1.2.44 show version

Command

```
show version
```

Parameters

show

Show running system information

version

Displays program version

1.2.45 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)

1.2.46 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

1.2.47 who

Command

```
who
```

Parameters

who

Display who is on vty

1.3 enable

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

1.3.1 configure terminal

Command

```
configure terminal
```

Parameters

configure

Configuration from vty interface

terminal

Configuration terminal

1.3.2 copy running-config startup-config

Command

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

Parameters

copy

Copy configuration

running-config

Copy running config to...

startup-config

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

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

Command

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

Parameters

delete-gbproxy-peer

Delete a GBProxy bvc by NSEI and optionally BVCI

<0-65534>

NSEI number

only-bvc

Only delete BSSGP connections (BVC)

only-nsvc

Only delete dynamic NS connections (NS-VC)

all

Delete BVC and dynamic NS connections

[dry-run]

Show what would be deleted instead of actually deleting

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

Command

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

Parameters

delete-gbproxy-peer

Delete a GBProxy bvc by NSEI and optionally BVCI

<0-65534>

NSEI number

bvci

Only delete bvc with a matching BVCI

<2-65534>

BVCI number

1.3.5 disable

Command

```
disable
```

Parameters

disable

Turn off privileged mode command

1.3.6 logging color (0|1)

Command

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

Parameters

logging

Configure logging

color

Configure color-printing for log messages

0

Don't use color for printing messages

1

Use color for printing messages

1.3.7 logging disable

Command

```
logging disable
```

Parameters

logging

Configure logging

disable

Disables logging to this vty

1.3.8 logging enable

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

Command

```
logging enable
```

Parameters

logging

Configure logging

enable

Enables logging to this vty

1.3.9 logging filter all (0|1)

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

Command

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

Parameters

logging

Configure logging

filter

Filter log messages

all

Do you want to log all messages?

0

Only print messages matched by other filters

1

Bypass filter and print all messages

1.3.10 logging filter bvc bvci <0-65535>

Command

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

Parameters

logging

Configure logging

filter

Filter log messages

bvc

Filter based on BSSGP VC

bvci

Identify BVC by BVCI

<0-65535>

Numeric identifier

1.3.11 logging level (|gprs|ns|obj|lglobal|llapd|linp|lmux|lmi|lmib|lsms|lctrl|lgtp|lst...**Command**

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

Parameters**logging**

Configure logging

level

Set the log level for a specified category

gprs

GPRS Packet Service

ns

GPRS Network Service (NS)

obj

GbProxy object allocation/release

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

lscpp
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

lpfcp

libosmo-pfcp Packet Forwarding Control Protocol

lcsn1

libosmo-csn1 Concrete Syntax Notation 1 codec

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 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

1.3.13 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

1.3.14 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

1.3.15 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>')

1.3.16 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

1.3.17 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.

1.3.18 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

1.3.19 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

1.3.20 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

1.3.21 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

1.3.22 logp ([gprs|ns|obj|lglobal|llapd|linp|lmux|lmi|lmib|lsms|lctrl|lgtp|lstats|lgsup...**Command**

```
logp ([gprs|ns|obj|lglobal|llapd|linp|lmux|lmi|lmib|lsms|lctrl|lgtp|lstats|lgsup|loap| ↔
      lss7|lscdp|lsua|lm3ua|lmgcp|ljibuf|lrspro|lns|lbssgp|lndata|lnsignal|liuup|lpfcp| ↔
      lcsnl) (debug|info|notice|error|fatal) .LOGMESSAGE
```

Parameters**logp**

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

gprs

GPRS Packet Service

ns

GPRS Network Service (NS)

obj

GbProxy object allocation/release

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

lscpp
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

lnsignal
GPRS NS layer signal PDU

liuup
Iu UP layer

lpfcp
libosmo-pfcp Packet Forwarding Control Protocol

lcsn1
libosmo-csn1 Concrete Syntax Notation 1 codec

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

1.3.23 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>'

1.3.24 show alarms

Command

```
show alarms
```

Parameters

show

Show running system information

alarms

Show current logging configuration

1.3.25 show asciidoc counters

Command

```
show asciidoc counters
```

Parameters

show

Show running system information

asciidoc

Asciidoc generation

counters

Generate table of all registered counters

1.3.26 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

1.3.27 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

1.3.28 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

1.3.29 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

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

Command

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

Parameters

show

Show running system information

gbproxy

Display information about the Gb proxy

bvc

Show BSSGP Virtual Connections

bss

Display BSS-side BVCs

sgsn

Display SGSN-side BVCs

[stats]

Show statistics

1.3.31 show gbproxy cell [stats]

Command

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

Parameters

show

Show running system information

gbproxy

Display information about the Gb proxy

cell

Show GPRS Cell Information

[stats]

Show statistics

1.3.32 show gbproxy imsi-cache

Command

```
show gbproxy imsi-cache
```

Parameters

show

Show running system information

gbproxy

Display information about the Gb proxy

imsi-cache

Show IMSI cache entries

1.3.33 show gbproxy links

Command

```
show gbproxy links
```

Parameters

show

Show running system information

gbproxy

Display information about the Gb proxy

links

Show logical links

1.3.34 show gbproxy tlli-cache

Command

```
show gbproxy tlli-cache
```

Parameters

show

Show running system information

gbproxy

Display information about the Gb proxy

tlli-cache

Show TLLI cache entries

1.3.35 show history

Command

```
show history
```

Parameters

show

Show running system information

history

Display the session command history

1.3.36 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

1.3.37 show nri all

Command

```
show nri all
```

Parameters

show

Show running system information

nri

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

all

Show all SGSNs

1.3.38 show nri nsei <0-65535>

Command

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

Parameters

show

Show running system information

nri

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

nsei

Identify SGSN by NSEI

<0-65535>

NSEI of the SGSN

1.3.39 show online-help

Command

```
show online-help
```

Parameters

show

Show running system information

online-help

Online help

1.3.40 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

1.3.41 show startup-config

Command

```
show startup-config
```

Parameters

show

Show running system information

startup-config

Contentes of startup configuration

1.3.42 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

1.3.43 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

1.3.44 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

1.3.45 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

1.3.46 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)

1.3.47 show version

Command

```
show version
```

Parameters

show

Show running system information

version

Displays program version

1.3.48 shutdown

Command

```
shutdown
```

Parameters

shutdown

Request a shutdown of the program

1.3.49 stats report

Command

```
stats report
```

Parameters

stats

Stats related commands

report

Manurally trigger reporting of stats

1.3.50 stats reset

Command

```
stats reset
```

Parameters

stats

Stats related commands

reset

Reset all rate counter stats

1.3.51 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)

1.3.52 terminal monitor

Command

```
terminal monitor
```

Parameters

terminal

Set terminal line parameters

monitor

Copy debug output to the current terminal line

1.3.53 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

1.3.54 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

1.3.55 who

Command

```
who
```

Parameters

who

Display who is on vty

1.4 config

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

1.4.1 banner motd default

Command

```
banner motd default
```

Parameters

banner

Set banner string

motd

Strings for motd

default

Default string

1.4.2 banner motd file [FILE]

Command

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

Parameters

banner

Set banner

motd

Banner for motd

file

Banner from a file

[FILE]

Filename

1.4.3 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

1.4.4 enable password LINE

Command

```
enable password LINE
```

Parameters

enable

Modify enable password parameters

password

Assign the privileged level password

LINE

The UNENCRYPTED (cleartext) 'enable' password

1.4.5 gbproxy

Command

```
gbproxy
```

Parameters

gbproxy

Configure the Gb proxy

1.4.6 hostname WORD

Command

```
hostname WORD
```

Parameters

hostname

Set system's network name

WORD

This system's network name

1.4.7 line vty

Command

```
line vty
```

Parameters

line

Configure a terminal line

vty

Virtual terminal

1.4.8 log alarms <2-32700>

Command

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

Parameters

log

Configure logging sub-system

alarms

Logging alarms to osmo_strb

<2-32700>

Maximum number of messages to log

1.4.9 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

1.4.10 log gsmtap [HOSTNAME]

Command

```
log gsmtap [HOSTNAME]
```

Parameters

log

Configure logging sub-system

gsmtap

Logging via GSMTAP

[HOSTNAME]

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

1.4.11 log stderr [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

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

Command

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

Parameters

log

Configure logging sub-system

syslog

Logging via syslog

authpriv

Security/authorization messages facility

cron

Clock daemon (cron/at) facility

daemon

General system daemon facility

ftp

Ftp daemon facility

lpr

Line printer facility

mail

Mail facility

news

News facility

user

Generic facility

uucp

UUCP facility

1.4.13 log syslog local <0-7>

Command

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

Parameters

log

Configure logging sub-system

syslog

Logging via syslog

local

Syslog LOCAL facility

<0-7>

Local facility number

1.4.14 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

1.4.15 no banner motd

Command

```
no banner motd
```

Parameters

no

Negate a command or set its defaults

banner

Set banner string

motd

Strings for motd

1.4.16 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

1.4.17 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

1.4.18 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

1.4.19 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

1.4.20 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)

1.4.21 no log stderr

Command

```
no log stderr
```

Parameters

no

Negate a command or set its defaults

log

Configure logging sub-system

stderr

Logging via STDERR of the process

1.4.22 no log syslog

Command

```
no log syslog
```

Parameters

no

Negate a command or set its defaults

log

Configure logging sub-system

syslog

Logging via syslog

1.4.23 no 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

1.4.24 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

1.4.25 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)

1.4.26 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

1.4.27 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

1.4.28 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

1.4.29 password LINE

Command

```
password LINE
```

Parameters

password

Assign the terminal connection password

LINE

The UNENCRYPTED (cleartext) line password

1.4.30 service advanced-vty

Command

```
service advanced-vty
```

Parameters

service

Set up miscellaneous service

advanced-vty

Enable advanced mode vty interface

1.4.31 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)

1.4.32 sgsn nsei <0-65534>

Command

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

Parameters

sgsn

Configure the SGSN

nsei

NSEI to be used in the connection with the SGSN

<0-65534>

The NSEI

1.4.33 show history

Command

```
show history
```

Parameters

show

Show running system information

history

Display the session command history

1.4.34 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)

1.4.35 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

1.4.36 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

1.4.37 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

1.4.38 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 (|gprs|ns|obj|lglobal|llapd|linp|lmux|lmi|lmib|lsms|lctrl|lgtp|lst...**Command**

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

Parameters**logging**

Configure logging

level
Set the log level for a specified category

gprs
GPRS Packet Service

ns
GPRS Network Service (NS)

obj
GbProxy object allocation/release

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

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-gbproxy

Configure the Gb proxy

1.8.1 nri bitlen <0-15>

Command

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

Global attributes

Flag: !

This command applies immediately

Parameters

nri

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

bitlen

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

<0-15>

bit count (0 disables) pooling)

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

Command

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

Global attributes

Flag: !

This command applies immediately

Parameters

nri

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

null

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

add

Add NULL-NRI value (or range)

<0-32767>

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

[<0-32767>]

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

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

Command

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

Global attributes

Flag: !

This command applies immediately

Parameters

nri

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

null

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

del

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

<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.

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

Command

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

Parameters

pool

SGSN Pool related configuration

bvc-flow-control-ratio

Ratio of BSS-advertised bucket size + leak rate advertised to each SGSN

<1-100>

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

1.9 config-sgsn

1.9.1 allow-attach

Command

```
allow-attach
```

Global attributes

Flag: !

This command applies immediately

Parameters

allow-attach

Allow this SGSN to attach new subscribers (default).

1.9.2 name NAME

Command

```
name NAME
```

Parameters

name

Configure the SGSN

NAME

Name the SGSN

1.9.3 no allow-attach

Command

```
no allow-attach
```

Global attributes

Flag: !

This command applies immediately

Parameters

no

Negate a command or set its defaults

allow-attach

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

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

Command

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

Global attributes

Flag: !

This command applies immediately

Parameters

nri

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

add

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

<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.

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

Command

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

Global attributes

Flag: !

This command applies immediately

Parameters

nri

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

del

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

<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.