OsmoBTS VTY Reference

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osmo-bts-virtual

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COLLABORATORS

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Chapter 1

VTY reference

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

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

Table 1.1: VTY Parameter Patterns

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

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

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

Table 1.2: VTY port numbers

1.1 Common Commands

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

1.1.1 **end**

Command

```
end
```

Parameters

end

 End current mode and change to enable mode.

1.1.2 **exit**

Command

```
exit
```

Parameters

exit

 Exit current mode and down to previous mode

1.1.3 **help**

Command

```
help
```

Parameters

help

 Description of the interactive help system

1.1.4 **list [with-flags]**

Command

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

Parameters

list

 Print command list

[with-flags]

 Also print the VTY attribute flags

1.1.5 show running-config

Command

```
show running-config
```

Parameters

show

> Show running system information

running-config

> running configuration

1.1.6 show vty-attributes

Command

```
show vty-attributes
```

Parameters

show

> Show running system information

vty-attributes

> List of VTY attributes

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

Command

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

Parameters

show

> Show running system information

vty-attributes

> List of VTY attributes

application

> Application specific attributes only

library

> Library specific attributes only

global

> Global attributes only

1.1.8 write

Command

```
write
```

Parameters

write

Write running configuration to memory, network, or terminal

1.1.9 write file [PATH]

Command

```
write file [PATH]
```

Parameters

write

Write running configuration to memory, network, or terminal

file

Write to configuration file

[PATH]

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

1.1.10 write memory

Command

```
write memory
```

Parameters

write

Write running configuration to memory, network, or terminal

memory

Write configuration to the file (same as write file)

1.1.11 write terminal

Command

```
write terminal
```

Parameters

write

Write running configuration to memory, network, or terminal

terminal

Write to terminal

1.2 view

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

1.2.1 enable [expert-mode]

Command

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

Parameters

enable

Turn on privileged mode command

[expert-mode]

Enable the expert mode (show hidden commands)

1.2.2 logging color (0|1)

Command

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

Parameters

logging

Configure logging

color

Configure color-printing for log messages

0

Don't use color for printing messages

1

Use color for printing messages

1.2.3 logging disable

Command

```
logging disable
```

Parameters

logging

Configure logging

disable

Disables logging to this vty

1.2.4 logging enable

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

Command

```
logging enable
```

Parameters

logging

Configure logging

enable

Enables logging to this vty

1.2.5 logging filter all (0|1)

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

Command

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

Parameters

logging

Configure logging

filter

Filter log messages

all

Do you want to log all messages?

0

Only print messages matched by other filters

1

Bypass filter and print all messages

1.2.6 logging filter l1-sapi (unknown|agch|bcch|cbch|facch/f|facch/h|fcch|idle|nch|pac...

Command

```
logging filter l1-sapi (unknown|agch|bcch|cbch|facch/f|facch/h|fcch|idle|nch|pacch| ↩
    pagch|pbcch|pch|pdtch|pnch|ppch|prach|ptcch|rach|sacch|sch|sdcch|tch/f|tch/h)
```

Parameters

logging

    Configure logging

filter

    Filter log messages

l1-sapi

    L1 SAPI

unknown

    UNKNOWN

agch

    AGCH

bcch

    BCCH

cbch

    CBCH

facch/f

    FACCH/F

facch/h

    FACCH/H

fcch

    FCCH

idle

    IDLE

nch

    NCH

pacch

    PACCH

pagch

    PAGCH

pbcch

    PBCCH

pch

    PCH

pdtch

    PDTCH

pnch

    PNCH

ppch

    PPCH

prach

>   PRACH

ptcch

>   PTCCH

rach

>   RACH

sacch

>   SACCH

sch

>   SCH

sdcch

>   SDCCH

tch/f

>   TCH/F

tch/h

>   TCH/H

1.2.7   logging level (rsl|oml|rll|rr|meas|pag|l1c|l1p|dsp|pcu|ho|trx|loop|abis|rtp|lglo...

Command

```
logging level (rsl|oml|rll|rr|meas|pag|l1c|l1p|dsp|pcu|ho|trx|loop|abis|rtp|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

rsl

>   A-bis Radio Siganlling Link (RSL)

oml

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

rll

>   A-bis Radio Link Layer (RLL)

rr

>   Layer3 Radio Resource (RR)

meas

>   Radio Measurement Processing

pag

Paging Subsystem

l1c

Layer 1 Control (MPH)

l1p

Layer 1 Primitives (PH)

dsp

DSP Trace Messages

pcu

PCU interface

ho

Handover

trx

TRX interface

loop

Control loops

abis

A-bis Intput Subsystem

rtp

Realtime Transfer Protocol

lglobal

Library-internal global log family

llapd

LAPD in libosmogsm

linp

A-bis Intput Subsystem

lmux

A-bis B-Subchannel TRAU Frame Multiplex

lmi

A-bis Input Driver for Signalling

lmib

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

lsms

Layer3 Short Message Service (SMS)

lctrl

Control Interface

lgtp

GPRS GTP library

lstats

  Statistics messages and logging

lgsup

  Generic Subscriber Update Protocol

loap

  Osmocom Authentication Protocol

lss7

  libosmo-sigtran Signalling System 7

lsccp

  libosmo-sigtran SCCP Implementation

lsua

  libosmo-sigtran SCCP User Adaptation

lm3ua

  libosmo-sigtran MTP3 User Adaptation

lmgcp

  libosmo-mgcp Media Gateway Control Protocol

ljibuf

  libosmo-netif Jitter Buffer

lrspro

  Remote SIM protocol

lns

  GPRS NS layer

lbssgp

  GPRS BSSGP layer

lnsdata

  GPRS NS layer data PDU

lnssignal

  GPRS NS layer signal PDU

liuup

  Iu UP layer

lpfcp

  libosmo-pfcp Packet Forwarding Control Protocol

lcsn1

  libosmo-csn1 Concrete Syntax Notation 1 codec

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 (rsl|oml|rll|rr|meas|pag|l1c|l1p|dsp|pcu|ho|trx|loop|abis|rtp|lglobal|llapd...

Command

```
logp (rsl|oml|rll|rr|meas|pag|l1c|l1p|dsp|pcu|ho|trx|loop|abis|rtp|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) .LOGMESSAGE
```

Parameters

logp

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

rsl

   A-bis Radio Siganlling Link (RSL)

oml

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

rll

   A-bis Radio Link Layer (RLL)

rr

   Layer3 Radio Resource (RR)

meas

   Radio Measurement Processing

pag

   Paging Subsystem

l1c

   Layer 1 Control (MPH)

l1p

   Layer 1 Primitives (PH)

dsp

   DSP Trace Messages

pcu

   PCU interface

ho

   Handover

trx

   TRX interface

loop

   Control loops

abis

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Realtime Transfer Protocol

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llapd

LAPD in libosmogsm

linp

A-bis Intput Subsystem

lmux

A-bis B-Subchannel TRAU Frame Multiplex

lmi

A-bis Input Driver for Signalling

lmib

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

lsms

Layer3 Short Message Service (SMS)

lctrl

Control Interface

lgtp

GPRS GTP library

lstats

Statistics messages and logging

lgsup

Generic Subscriber Update Protocol

loap

Osmocom Authentication Protocol

lss7

libosmo-sigtran Signalling System 7

lsccp

libosmo-sigtran SCCP Implementation

lsua

libosmo-sigtran SCCP User Adaptation

lm3ua

libosmo-sigtran MTP3 User Adaptation

lmgcp

libosmo-mgcp Media Gateway Control Protocol

ljibuf

libosmo-netif Jitter Buffer

lrspro

> Remote SIM protocol

lns

> GPRS NS layer

lbssgp

> GPRS BSSGP layer

lnsdata

> GPRS NS layer data PDU

lnssignal

> GPRS NS layer signal PDU

liuup

> Iu UP layer

lpfcp

> libosmo-pfcp Packet Forwarding Control Protocol

lcsn1

> libosmo-csn1 Concrete Syntax Notation 1 codec

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 filter l1-sapi (unknown|agch|bcch|cbch|facch/f|facch/h|fcch|idle|nch|...

Command

```
no logging filter l1-sapi (unknown|agch|bcch|cbch|facch/f|facch/h|fcch|idle|nch|pacch| ←↩
    pagch|pbcch|pch|pdtch|pnch|ppch|prach|ptcch|rach|sacch|sch|sdcch|tch/f|tch/h)
```

Parameters

no

> Negate a command or set its defaults

logging

> Configure logging

filter

> Filter log messages

l1-sapi

> L1 SAPI

unknown

> UNKNOWN

agch

> AGCH

bcch

> BCCH

cbch

> CBCH

facch/f

> FACCH/F

facch/h

> FACCH/H

fcch

> FCCH

idle

> IDLE

nch

> NCH

pacch

> PACCH

pagch

> PAGCH

pbcch

> PBCCH

pch

> PCH

pdtch

> PDTCH

pnch

> PNCH

ppch

> PPCH

prach

    PRACH

ptcch

    PTCCH

rach

    RACH

sacch

    SACCH

sch

    SCH

sdcch

    SDCCH

tch/f

    TCH/F

tch/h

    TCH/H

1.2.20   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>'

1.2.21   show alarms

Command

```
show alarms
```

Parameters

show

    Show running system information

alarms

    Show current logging configuration

1.2.22   show asciidoc counters

Command

```
show asciidoc counters
```

Parameters

show

    Show running system information

asciidoc

    Asciidoc generation

counters

    Generate table of all registered counters

1.2.23   show bts <0-255> gprs

Command

```
show bts <0-255> gprs
```

Parameters

show

    Show running system information

bts

    Display information about a BTS

<0-255>

    BTS Number

gprs

    GPRS/EGPRS configuration

1.2.24   show bts [<0-255>]

Command

```
show bts [<0-255>]
```

Parameters

show

    Show running system information

bts

    Display information about a BTS

[<0-255>]

    BTS Number

1.2.25 **show cpu-sched threads**

Command

```
show cpu-sched threads
```

Parameters

show

Show running system information

cpu-sched

Show Sched section information

threads

Show information about running threads)

1.2.26 **show e1_driver**

Command

```
show e1_driver
```

Parameters

show

Show running system information

e1_driver

Display information about available E1 drivers

1.2.27 **show e1_line [<0-255>] [stats]**

Command

```
show e1_line [<0-255>] [stats]
```

Parameters

show

Show running system information

e1_line

Display information about a E1 line

[<0-255>]

E1 Line Number

[stats]

Include statistics

1.2.28   show e1_timeslot [<0-255>] [<0-31>]

Command

```
show e1_timeslot [<0-255>] [<0-31>]
```

Parameters

show

   Show running system information

e1_timeslot

   Display information about a E1 timeslot

[<0-255>]

   E1 Line Number

[<0-31>]

   E1 Timeslot Number

1.2.29   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

1.2.30   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

1.2.31 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

1.2.32 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

1.2.33 show history

Command

```
show history
```

Parameters

show

> Show running system information

history

> Display the session command history

1.2.34 show lchan [<0-255>] [<0-255>] [<0-7>] [<0-7>]

Command

```
show lchan [<0-255>] [<0-255>] [<0-7>] [<0-7>]
```

Parameters

show

Show running system information

lchan

Display information about a logical channel

[<0-255>]

BTS Number

[<0-255>]

TRX Number

[<0-7>]

Timeslot Number

[<0-7>]

Logical Channel Number

1.2.35 show lchan summary [<0-255>] [<0-255>] [<0-7>] [<0-7>]

Command

```
show lchan summary [<0-255>] [<0-255>] [<0-7>] [<0-7>]
```

Parameters

show

Show running system information

lchan

Display information about a logical channel

summary

Short summary

[<0-255>]

BTS Number

[<0-255>]

TRX Number

[<0-7>]

Timeslot Number

[<0-7>]

Logical Channel Number

1.2.36   **show logging vty**

Command

```
show logging vty
```

Parameters

show
    Show running system information

logging
    Show current logging configuration

vty
    Show current logging configuration for this vty

1.2.37   **show online-help**

Command

```
show online-help
```

Parameters

show
    Show running system information

online-help
    Online help

1.2.38   **show pid**

Command

```
show pid
```

Parameters

show
    Show running system information

pid
    Displays the process ID

1.2.39   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

1.2.40   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

1.2.41   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

1.2.42 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

1.2.43 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

1.2.44 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)

1.2.45   show timer [(bts|abis)] [TNNNN]

Command

```
show timer [(bts|abis)] [TNNNN]
```

Parameters

show

   Show running system information

timer

   Show timers

[bts]

   BTS process timers

[abis]

   Abis (RSL) related 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'.

1.2.46   show timeslot [<0-255>] [<0-255>] [<0-7>]

Command

```
show timeslot [<0-255>] [<0-255>] [<0-7>]
```

Parameters

show

   Show running system information

timeslot

   Display information about a TS

[<0-255>]

   BTS Number

[<0-255>]

   TRX Number

[<0-7>]

   Timeslot Number

1.2.47 show trx [<0-255>] [<0-255>]

Command

```
show trx [<0-255>] [<0-255>]
```

Parameters

show

    Show running system information

trx

    Display information about a TRX

[<0-255>]

    BTS Number

[<0-255>]

    TRX Number

1.2.48 show uptime

Command

```
show uptime
```

Parameters

show

    Show running system information

uptime

    Displays how long the program has been running

1.2.49 show version

Command

```
show version
```

Parameters

show

    Show running system information

version

    Displays program version

1.2.50   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)

1.2.51   terminal no length

Command

```
terminal no length
```

Parameters

terminal
>   Set terminal line parameters

no
>   Negate a command or set its defaults

length
>   Set number of lines on a screen

1.2.52   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 bts <0-0> c0-power-red <0-6>

Command

```
bts <0-0> c0-power-red <0-6>
```

Parameters

bts

> BTS Specific Commands

<0-0>

> BTS Number

c0-power-red

> BCCH carrier power reduction operation

<0-6>

> Power reduction value (in dB, even numbers only)

1.3.2 bts <0-0> trx <0-255> ts <0-7> (lchan|shadow-lchan) <0-7> rtp jitter-buffer <0-1...

Command

```
bts <0-0> trx <0-255> ts <0-7> (lchan|shadow-lchan) <0-7> rtp jitter-buffer <0-10000>
```

Parameters

bts

> BTS related commands

<0-0>

> BTS number

trx

> TRX related commands

<0-255>

> TRX number

ts

> timeslot related commands

<0-7>

> timeslot number

lchan

> Primary logical channel commands

shadow-lchan

> Shadow logical channel commands

<0-7>

> logical channel number

rtp

> RTP settings

jitter-buffer

> Jitter buffer

<0-10000>

> Size of jitter buffer in (ms)

1.3.3   configure terminal

Command

```
configure terminal
```

Parameters

configure

> Configuration from vty interface

terminal

> Configuration terminal

1.3.4   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)

1.3.5   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 l1-sapi (unknown|agch|bcch|cbch|facch/f|facch/h|fcch|idle|nch|pac...

Command

```
logging filter l1-sapi (unknown|agch|bcch|cbch|facch/f|facch/h|fcch|idle|nch|pacch| ←
    pagch|pbcch|pch|pdtch|pnch|ppch|prach|ptcch|rach|sacch|sch|sdcch|tch/f|tch/h)
```

Parameters

logging

   Configure logging

filter

   Filter log messages

l1-sapi

   L1 SAPI

unknown

   UNKNOWN

agch

   AGCH

bcch

    BCCH

cbch

    CBCH

facch/f

    FACCH/F

facch/h

    FACCH/H

fcch

    FCCH

idle

    IDLE

nch

    NCH

pacch

    PACCH

pagch

    PAGCH

pbcch

    PBCCH

pch

    PCH

pdtch

    PDTCH

pnch

    PNCH

ppch

    PPCH

prach

    PRACH

ptcch

    PTCCH

rach

    RACH

sacch

    SACCH

sch

    SCH

sdcch

    SDCCH

tch/f

    TCH/F

tch/h

    TCH/H

1.3.11 logging level (rsl|oml|rll|rr|meas|pag|l1c|l1p|dsp|pcu|ho|trx|loop|abis|rtp|lglo...

Command

```
logging level (rsl|oml|rll|rr|meas|pag|l1c|l1p|dsp|pcu|ho|trx|loop|abis|rtp|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

rsl

    A-bis Radio Siganlling Link (RSL)

oml

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

rll

    A-bis Radio Link Layer (RLL)

rr

    Layer3 Radio Resource (RR)

meas

    Radio Measurement Processing

pag

    Paging Subsystem

l1c

    Layer 1 Control (MPH)

l1p

    Layer 1 Primitives (PH)

dsp

    DSP Trace Messages

pcu

    PCU interface

ho

    Handover

trx

    TRX interface

loop

    Control loops

abis

    A-bis Intput Subsystem

rtp

    Realtime Transfer Protocol

lglobal

    Library-internal global log family

llapd

    LAPD in libosmogsm

linp

    A-bis Intput Subsystem

lmux

    A-bis B-Subchannel TRAU Frame Multiplex

lmi

    A-bis Input Driver for Signalling

lmib

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

lsms

    Layer3 Short Message Service (SMS)

lctrl

    Control Interface

lgtp

    GPRS GTP library

lstats

    Statistics messages and logging

lgsup

    Generic Subscriber Update Protocol

loap

    Osmocom Authentication Protocol

lss7

    libosmo-sigtran Signalling System 7

lsccp

    libosmo-sigtran SCCP Implementation

lsua

libosmo-sigtran SCCP User Adaptation

lm3ua

libosmo-sigtran MTP3 User Adaptation

lmgcp

libosmo-mgcp Media Gateway Control Protocol

ljibuf

libosmo-netif Jitter Buffer

lrspro

Remote SIM protocol

lns

GPRS NS layer

lbssgp

GPRS BSSGP layer

lnsdata

GPRS NS layer data PDU

lnssignal

GPRS NS layer signal PDU

liuup

Iu UP layer

lpfcp

libosmo-pfcp Packet Forwarding Control Protocol

lcsn1

libosmo-csn1 Concrete Syntax Notation 1 codec

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 (rsl|oml|rll|rr|meas|pag|l1c|l1p|dsp|pcu|ho|trx|loop|abis|rtp|lglobal|llapd...

Command

```
logp (rsl|oml|rll|rr|meas|pag|l1c|l1p|dsp|pcu|ho|trx|loop|abis|rtp|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) .LOGMESSAGE
```

Parameters

logp

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

rsl

   A-bis Radio Siganlling Link (RSL)

oml

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

rll

   A-bis Radio Link Layer (RLL)

rr

   Layer3 Radio Resource (RR)

meas

   Radio Measurement Processing

pag

   Paging Subsystem

l1c

   Layer 1 Control (MPH)

l1p

   Layer 1 Primitives (PH)

dsp

   DSP Trace Messages

pcu

   PCU interface

ho

   Handover

trx

   TRX interface

loop

   Control loops

abis

   A-bis Intput Subsystem

rtp

   Realtime Transfer Protocol

lglobal

   Library-internal global log family

llapd

   LAPD in libosmogsm

linp

   A-bis Intput Subsystem

lmux

A-bis B-Subchannel TRAU Frame Multiplex

lmi

A-bis Input Driver for Signalling

lmib

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

lsms

Layer3 Short Message Service (SMS)

lctrl

Control Interface

lgtp

GPRS GTP library

lstats

Statistics messages and logging

lgsup

Generic Subscriber Update Protocol

loap

Osmocom Authentication Protocol

lss7

libosmo-sigtran Signalling System 7

lsccp

libosmo-sigtran SCCP Implementation

lsua

libosmo-sigtran SCCP User Adaptation

lm3ua

libosmo-sigtran MTP3 User Adaptation

lmgcp

libosmo-mgcp Media Gateway Control Protocol

ljibuf

libosmo-netif Jitter Buffer

lrspro

Remote SIM protocol

lns

GPRS NS layer

lbssgp

GPRS BSSGP layer

lnsdata

GPRS NS layer data PDU

lnssignal

    GPRS NS layer signal PDU

liuup

    Iu UP layer

lpfcp

    libosmo-pfcp Packet Forwarding Control Protocol

lcsn1

    libosmo-csn1 Concrete Syntax Notation 1 codec

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 filter l1-sapi (unknown|agch|bcch|cbch|facch/f|facch/h|fcch|idle|nch|...

Command

```
no logging filter l1-sapi (unknown|agch|bcch|cbch|facch/f|facch/h|fcch|idle|nch|pacch| ←-
    pagch|pbcch|pch|pdtch|pnch|ppch|prach|ptcch|rach|sacch|sch|sdcch|tch/f|tch/h)
```

Parameters

no

    Negate a command or set its defaults

logging

    Configure logging

filter

    Filter log messages

l1-sapi

    L1 SAPI

unknown

    UNKNOWN

agch

    AGCH

bcch

    BCCH

cbch

    CBCH

facch/f

    FACCH/F

facch/h

    FACCH/H

fcch

    FCCH

idle

    IDLE

nch

    NCH

pacch

    PACCH

pagch

    PAGCH

pbcch

    PBCCH

pch

    PCH

pdtch

    PDTCH

pnch

    PNCH

ppch

    PPCH

prach

    PRACH

ptcch

    PTCCH

rach

    RACH

sacch

    SACCH

sch

> SCH

sdcch

> SDCCH

tch/f

> TCH/F

tch/h

> TCH/H

1.3.24 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>'

1.3.25 show alarms

Command

```
show alarms
```

Parameters

show

> Show running system information

alarms

> Show current logging configuration

1.3.26 show asciidoc counters

Command

```
show asciidoc counters
```

Parameters

show
> Show running system information

asciidoc
> Asciidoc generation

counters
> Generate table of all registered counters

1.3.27 show bts <0-255> gprs

Command

```
show bts <0-255> gprs
```

Parameters

show
> Show running system information

bts
> Display information about a BTS

<0-255>
> BTS Number

gprs
> GPRS/EGPRS configuration

1.3.28 show bts [<0-255>]

Command

```
show bts [<0-255>]
```

Parameters

show
> Show running system information

bts
> Display information about a BTS

[<0-255>]
> BTS Number

1.3.29 show cpu-sched threads

Command

```
show cpu-sched threads
```

Parameters

show

 Show running system information

cpu-sched

 Show Sched section information

threads

 Show information about running threads)

1.3.30 show e1_driver

Command

```
show e1_driver
```

Parameters

show

 Show running system information

e1_driver

 Display information about available E1 drivers

1.3.31 show e1_line [<0-255>] [stats]

Command

```
show e1_line [<0-255>] [stats]
```

Parameters

show

 Show running system information

e1_line

 Display information about a E1 line

[<0-255>]

 E1 Line Number

[stats]

 Include statistics

1.3.32 show e1_timeslot [<0-255>] [<0-31>]

Command

```
show e1_timeslot [<0-255>] [<0-31>]
```

Parameters

show

Show running system information

e1_timeslot

Display information about a E1 timeslot

[<0-255>]

E1 Line Number

[<0-31>]

E1 Timeslot Number

1.3.33 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

1.3.34 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

1.3.35 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

1.3.36 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

1.3.37 show history

Command

```
show history
```

Parameters

show

Show running system information

history

Display the session command history

1.3.38   show lchan [<0-255>] [<0-255>] [<0-7>] [<0-7>]

Command

```
show lchan [<0-255>] [<0-255>] [<0-7>] [<0-7>]
```

Parameters

show

   Show running system information

lchan

   Display information about a logical channel

[<0-255>]

   BTS Number

[<0-255>]

   TRX Number

[<0-7>]

   Timeslot Number

[<0-7>]

   Logical Channel Number

1.3.39   show lchan summary [<0-255>] [<0-255>] [<0-7>] [<0-7>]

Command

```
show lchan summary [<0-255>] [<0-255>] [<0-7>] [<0-7>]
```

Parameters

show

   Show running system information

lchan

   Display information about a logical channel

summary

   Short summary

[<0-255>]

   BTS Number

[<0-255>]

   TRX Number

[<0-7>]

   Timeslot Number

[<0-7>]

   Logical Channel Number

1.3.40 show logging vty

Command

```
show logging vty
```

Parameters

show
>   Show running system information

logging
>   Show current logging configuration

vty
>   Show current logging configuration for this vty

1.3.41 show online-help

Command

```
show online-help
```

Parameters

show
>   Show running system information

online-help
>   Online help

1.3.42 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

1.3.43 show startup-config

Command

```
show startup-config
```

Parameters

show

>   Show running system information

startup-config

>   Contentes of startup configuration

1.3.44 show stats [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

1.3.45 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

1.3.46   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

1.3.47   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

1.3.48 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)

1.3.49   show timer [(bts|abis)] [TNNNN]

Command

```
show timer [(bts|abis)] [TNNNN]
```

Parameters

show

    Show running system information

timer

    Show timers

[bts]

    BTS process timers

[abis]

    Abis (RSL) related 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'.

1.3.50   show timeslot [<0-255>] [<0-255>] [<0-7>]

Command

```
show timeslot [<0-255>] [<0-255>] [<0-7>]
```

Parameters

show

    Show running system information

timeslot

    Display information about a TS

[<0-255>]

    BTS Number

[<0-255>]

    TRX Number

[<0-7>]

    Timeslot Number

1.3.51 show trx [<0-255>] [<0-255>]

Command

```
show trx [<0-255>] [<0-255>]
```

Parameters

show

Show running system information

trx

Display information about a TRX

[<0-255>]

BTS Number

[<0-255>]

TRX Number

1.3.52 show version

Command

```
show version
```

Parameters

show

Show running system information

version

Displays program version

1.3.53 shutdown

Command

```
shutdown
```

Parameters

shutdown

Request a shutdown of the program

1.3.54   stats report

Command

```
stats report
```

Parameters

stats

   Stats related commands

report

   Manurally trigger reporting of stats

1.3.55   stats reset

Command

```
stats reset
```

Parameters

stats

   Stats related commands

reset

   Reset all rate counter stats

1.3.56   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)

1.3.57 terminal monitor

Command

```
terminal monitor
```

Parameters

terminal

> Set terminal line parameters

monitor

> Copy debug output to the current terminal line

1.3.58 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

1.3.59 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

1.3.60 test send-failure-event-report <0-255>

Command

```
test send-failure-event-report <0-255>
```

Parameters

test

Various testing commands

send-failure-event-report

Send a test OML failure event report to the BSC

<0-255>

BTS Number

1.3.61 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 bts BTS_NR

Command

```
bts BTS_NR
```

Global attributes

Flag: !
> This command applies immediately

Parameters

bts
> Select a BTS to configure

BTS_NR
> BTS Number

1.4.4 cpu-sched

Command

```
cpu-sched
```

Parameters

cpu-sched
> Configure CPU Scheduler related settings

1.4.5 ctrl

Command

```
ctrl
```

Parameters

ctrl

Configure the Control Interface

1.4.6 e1_input

Command

```
e1_input
```

Global attributes

Flag: !

This command applies immediately

Parameters

e1_input

Configure E1/T1/J1 TDM input

1.4.7 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

1.4.8   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

1.4.9   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

vty

   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 no banner motd

Command

```
no banner motd
```

Parameters

no

Negate a command or set its defaults

banner

Set banner string

motd

Strings for motd

1.4.19   no enable password

Command

```
no enable password
```

Parameters

no

  Negate a command or set its defaults

enable

  Modify enable password parameters

password

  Assign the privileged level password

1.4.20   no hostname [HOSTNAME]

Command

```
no hostname [HOSTNAME]
```

Parameters

no

  Negate a command or set its defaults

hostname

  Reset system's network name

[HOSTNAME]

  Host name of this router

1.4.21   no log alarms

Command

```
no log alarms
```

Parameters

no

  Negate a command or set its defaults

log

  Configure logging sub-system

alarms

  Logging alarms to osmo_strrb

1.4.22   no log file FILENAME

Command

```
no log file FILENAME
```

Parameters

no
>   Negate a command or set its defaults

log
>   Configure logging sub-system

file
>   Logging to text file

FILENAME
>   Filename

1.4.23   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)

1.4.24   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

1.4.25 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

1.4.26 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

1.4.27 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

1.4.28   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)

1.4.29   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

1.4.30   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

1.4.31 password (8|) WORD

Command

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

Parameters

password

   Assign the terminal connection password

8

   Specifies a HIDDEN password will follow

dummy string

WORD

   The HIDDEN line password string

1.4.32 password LINE

Command

```
password LINE
```

Parameters

password

   Assign the terminal connection password

LINE

   The UNENCRYPTED (cleartext) line password

1.4.33 phy <0-255>

Command

```
phy <0-255>
```

Global attributes

Flag: !
    This command applies immediately

Parameters

phy
    Select a PHY to configure

<0-255>
    PHY number

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   show history

Command

```
show history
```

Parameters

show

Show running system information

history

Display the session command history

1.4.37   stats interval <0-65535>

Command

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

Parameters

stats

Configure stats sub-system

interval

Set the reporting interval

<0-65535>

Interval in seconds (0 disables the reporting interval)

1.4.38   stats reporter log [NAME]

Command

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

Parameters

stats

Configure stats sub-system

reporter

Configure a stats reporter

log

Report to the logger

[NAME]

Name of the reporter

1.4.39   stats reporter statsd [NAME]

Command

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

Parameters

stats
>   Configure stats sub-system

reporter
>   Configure a stats reporter

statsd
>   Report to a STATSD server

[NAME]
>   Name of the reporter

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

Command

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

Parameters

stats-tcp
>   Configure stats sub-system

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

<1-65535>
>   Number of sockets per interval

1.4.41   stats-tcp interval <0-65535>

Command

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

Parameters

stats-tcp
>   Configure stats sub-system

interval
>   Set the tcp socket stats polling interval

<0-65535>
>   Interval in seconds (0 disables the polling interval)

1.4.42 timer [(bts|abis)] [TNNNN] [(<0-2147483647>|default)]

Command

```
timer [(bts|abis)] [TNNNN] [(<0-2147483647>|default)]
```

Parameters

timer

Configure or show timers

[bts]

BTS process timers

[abis]

Abis (RSL) related 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

1.4.43 vty telnet-port <0-65535>

Command

```
vty telnet-port <0-65535>
```

Parameters

vty

Configure the VTY

telnet-port

Set the VTY telnet port

<0-65535>

TCP Port number

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 (rsl|oml|rll|rr|meas|pag|l1c|l1p|dsp|pcu|ho|trx|loop|abis|rtp|lglo...

Command

```
logging level (rsl|oml|rll|rr|meas|pag|l1c|l1p|dsp|pcu|ho|trx|loop|abis|rtp|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

rsl

A-bis Radio Siganlling Link (RSL)

oml

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

rll

A-bis Radio Link Layer (RLL)

rr

Layer3 Radio Resource (RR)

meas

Radio Measurement Processing

pag

Paging Subsystem

l1c

Layer 1 Control (MPH)

l1p

Layer 1 Primitives (PH)

dsp

DSP Trace Messages

pcu

PCU interface

ho

Handover

trx

TRX interface

loop

Control loops

abis

    A-bis Intput Subsystem

rtp

    Realtime Transfer Protocol

lglobal

    Library-internal global log family

llapd

    LAPD in libosmogsm

linp

    A-bis Intput Subsystem

lmux

    A-bis B-Subchannel TRAU Frame Multiplex

lmi

    A-bis Input Driver for Signalling

lmib

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

lsms

    Layer3 Short Message Service (SMS)

lctrl

    Control Interface

lgtp

    GPRS GTP library

lstats

    Statistics messages and logging

lgsup

    Generic Subscriber Update Protocol

loap

    Osmocom Authentication Protocol

lss7

    libosmo-sigtran Signalling System 7

lsccp

    libosmo-sigtran SCCP Implementation

lsua

    libosmo-sigtran SCCP User Adaptation

lm3ua

    libosmo-sigtran MTP3 User Adaptation

lmgcp

    libosmo-mgcp Media Gateway Control Protocol

ljibuf

 libosmo-netif Jitter Buffer

lrspro

 Remote SIM protocol

lns

 GPRS NS layer

lbssgp

 GPRS BSSGP layer

lnsdata

 GPRS NS layer data PDU

lnssignal

 GPRS NS layer signal PDU

liuup

 Iu UP layer

lpfcp

 libosmo-pfcp Packet Forwarding Control Protocol

lcsn1

 libosmo-csn1 Concrete Syntax Notation 1 codec

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-e1_input

1.8.1 e1_line <0-255> connect-timeout <0-60>

Command

```
e1_line <0-255> connect-timeout <0-60>
```

Global attributes

Flag: !

This command applies immediately

Parameters

e1_line

Configure E1/T1/J1 Line

<0-255>

Line Number

connect-timeout

Set connect timeout

<0-60>

Connect timeout in seconds (0 to disable)

1.8.2 e1_line <0-255> driver (misdn|misdn_lapd|dahdi|e1d|ipa|unixsocket)

Command

```
e1_line <0-255> driver (misdn|misdn_lapd|dahdi|e1d|ipa|unixsocket)
```

Parameters

e1_line

Configure E1/T1/J1 Line

<0-255>

Line Number

driver

Set driver for this line

misdn

mISDN supported E1 Card (kernel LAPD)

misdn_lapd

mISDN supported E1 Card (userspace LAPD)

dahdi

DAHDI supported E1/T1/J1 Card

e1d

osmo-e1d supported E1 interface

ipa

IPA TCP/IP input

unixsocket

Unix socket input

1.8.3   e1_line <0-255> ipa-keepalive <1-300> <1-300>

Command

```
e1_line <0-255> ipa-keepalive <1-300> <1-300>
```

Global attributes

Flag: !

This command applies immediately

Parameters

e1_line

Configure E1/T1/J1 Line

<0-255>

Line Number

ipa-keepalive

Enable IPA PING/PONG keep-alive

<1-300>

Idle interval in seconds before probes are sent

<1-300>

Time to wait for PONG response

1.8.4   e1_line <0-255> keepalive

Command

```
e1_line <0-255> keepalive
```

Library specific attributes

Flag: I

This command applies on IPA link establishment

Parameters

e1_line

Configure E1/T1/J1 Line

<0-255>

Line Number

keepalive

Enable keep-alive probing

1.8.5 e1_line <0-255> keepalive <1-300> <1-20> <1-300>

Command

```
e1_line <0-255> keepalive <1-300> <1-20> <1-300>
```

Library specific attributes

Flag: I

This command applies on IPA link establishment

Parameters

e1_line

Configure E1/T1/J1 Line

<0-255>

Line Number

keepalive

Enable keep-alive probing

<1-300>

Idle interval in seconds before probes are sent

<1-20>

Number of probes to sent

<1-300>

Delay between probe packets in seconds

1.8.6 e1_line <0-255> name .LINE

Command

```
e1_line <0-255> name .LINE
```

Global attributes

Flag: !

This command applies immediately

Parameters

e1_line

Configure E1/T1/J1 Line

<0-255>

Line Number

name

Set name for this line

.LINE

Human readable name

1.8.7 e1_line <0-255> pcap .FILE

Command

```
e1_line <0-255> pcap .FILE
```

Global attributes

Flag: !

This command applies immediately

Parameters

e1_line

Configure E1/T1/J1 Line

<0-255>

Line Number

pcap

Setup a pcap recording of E1 traffic for line

.FILE

Filename to save the packets to

1.8.8 e1_line <0-255> port <0-255>

Command

```
e1_line <0-255> port <0-255>
```

Library specific attributes

Flag: L

This command applies on E1 line update

Parameters

e1_line

Configure E1/T1/J1 Line

<0-255>

Line Number

port

Set physical port/span/card number

<0-255>

E1/T1 Port/Span/Card number

1.8.9 e1_line <0-255> socket .SOCKET

Command

```
e1_line <0-255> socket .SOCKET
```

Library specific attributes

Flag: L

This command applies on E1 line update

Parameters

e1_line

Configure E1/T1/J1 Line

<0-255>

Line Number

socket

Set socket path for unixsocket

.SOCKET

socket path

1.8.10 ipa bind A.B.C.D

Command

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

Library specific attributes

Flag: L

This command applies on E1 line update

Parameters

ipa

ipa driver config

bind

Set ipa local bind address

A.B.C.D

Listen on this IP address (default 0.0.0.0)

1.8.11   ipa ip-dscp (oml|rsl) <0-63>

Command

```
ipa ip-dscp (oml|rsl) <0-63>
```

Library specific attributes

Flag: I

This command applies on IPA link establishment

Parameters

ipa

ipa driver config

ip-dscp

Set IP DSCP value for outbound packets

oml

Set IP DSCP for OML link

rsl

Set IP DSCP for RSL link

<0-63>

IP DSCP Value to use

1.8.12   ipa socket-priority (oml|rsl) <0-255>

Command

```
ipa socket-priority (oml|rsl) <0-255>
```

Library specific attributes

Flag: I

This command applies on IPA link establishment

Parameters

ipa

ipa driver config

socket-priority

Set socket priority value for outbound packets

oml

Set socket priority for OML link

rsl

Set socket priority for RSL link

<0-255>

socket priority value to use (>6 requires CAP_NET_ADMIN)

1.8.13 no e1_line <0-255> ipa-keepalive

Command

```
no e1_line <0-255> ipa-keepalive
```

Global attributes

Flag: !

This command applies immediately

Parameters

no

Negate a command or set its defaults

e1_line

Configure E1/T1/J1 Line

<0-255>

Line Number

ipa-keepalive

Enable IPA PING/PONG keep-alive

1.8.14 no e1_line <0-255> keepalive

Command

```
no e1_line <0-255> keepalive
```

Library specific attributes

Flag: I

This command applies on IPA link establishment

Parameters

no

Negate a command or set its defaults

e1_line

Configure E1/T1/J1 Line

<0-255>

Line Number

keepalive

Enable keep-alive probing

1.8.15 no e1_line <0-255> pcap

Command

```
no e1_line <0-255> pcap
```

Global attributes

Flag: !

   This command applies immediately

Parameters

no

   Negate a command or set its defaults

e1_line

   Configure E1/T1/J1 Line

<0-255>

   Line Number

pcap

   Disable pcap recording of E1 traffic for line

1.9 config-ctrl

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

Command

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

Parameters

bind

   Set bind address to listen for Control connections

A.B.C.D

   Local IP address (default 127.0.0.1)

[<0-65535>]

   Local TCP port number

1.10   config-cpu-sched

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

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

Global attributes

Flag: !
    This command applies immediately

Parameters

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

self
    Set CPU affinity mask on thread running the VTY

all
    Set CPU affinity mask on all process' threads

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

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

CPUHEXMASK
    CPU affinity mask

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

1.10.2   policy rr <1-32>

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

Global attributes

Flag: !
    This command applies immediately

Parameters

policy
    Set the scheduling policy to use for the process

rr
    Use the SCHED_RR real-time scheduling algorithm

<1-32>
    Set the SCHED_RR real-time priority

1.11 phy

1.11.1 instance <0-255>

Command

```
instance <0-255>
```

Global attributes

Flag: !

This command applies immediately

Parameters

instance

Select a PHY instance to configure

<0-255>

PHY Instance number

1.11.2 no instance <0-255>

Command

```
no instance <0-255>
```

Parameters

no

Negate a command or set its defaults

instance

Select a PHY instance to remove

<0-255>

PHY Instance number

1.11.3 virtual-um bts-multicast-group GROUP

Command

```
virtual-um bts-multicast-group GROUP
```

Parameters

virtual-um

Virtual Um layer

bts-multicast-group

Configure the BTS multicast group

GROUP

(null)

1.11.4 virtual-um bts-udp-port <0-65535>

Command

```
virtual-um bts-udp-port <0-65535>
```

Parameters

virtual-um

Virtual Um layer

bts-udp-port

Configure the BTS UDP port

<0-65535>

(null)

1.11.5 virtual-um ms-multicast-group GROUP

Command

```
virtual-um ms-multicast-group GROUP
```

Parameters

virtual-um

Virtual Um layer

ms-multicast-group

Configure the MS multicast group

GROUP

(null)

1.11.6 virtual-um ms-udp-port <0-65535>

Command

```
virtual-um ms-udp-port <0-65535>
```

Parameters

virtual-um

Virtual Um layer

ms-udp-port

Configure the MS UDP port

<0-65535>

(null)

1.11.7 virtual-um net-device NETDEV

Command

```
virtual-um net-device NETDEV
```

Parameters

virtual-um
>   Virtual Um layer

net-device
>   Configure the network device

NETDEV
>   (null)

1.11.8 virtual-um ttl <0-255>

Command

```
virtual-um ttl <0-255>
```

Parameters

virtual-um
>   Virtual Um layer

ttl
>   Configure the TTL for transmitted multicast GSMTAP packets

<0-255>
>   (null)

1.12 phy-inst

1.12.1 osmotrx maxdly <0-63>

Access Burst is the first burst a mobile transmits in order to establish a connection and it is used to estimate Timing Advance (TA) which is then applied to Normal Bursts to compensate for signal delay due to distance. So changing this setting effectively changes maximum range of the cell, because Access Bursts with a delay higher than this value will be ignored.

Command

```
osmotrx maxdly <0-63>
```

Parameters

1.12.2 osmotrx maxdlynb <0-63>

USE FOR TESTING ONLY, DO NOT CHANGE IN PRODUCTION USE! During the normal operation, delay of Normal Bursts is controlled by the Timing Advance loop and thus Normal Bursts arrive to a BTS with no more than a couple GSM symbols, which is already taken into account in osmo-trx. Changing this setting will have no effect in production installations except increasing osmo-trx CPU load. This setting is only useful when testing with a transmitter which cannot precisely synchronize to the BTS downlink signal, like R&S CMD57.

Command

```
osmotrx maxdlynb <0-63>
```

Parameters

1.13 bts

1.13.1 agch-queue-mgmt default

Command

```
agch-queue-mgmt default
```

Global attributes

Flag: !

>   This command applies immediately

Parameters

agch-queue-mgmt

>   AGCH queue mgmt

default

>   Reset clean parameters to default values

1.13.2 agch-queue-mgmt threshold <0-100> low <0-100> high <0-100000>

Command

```
agch-queue-mgmt threshold <0-100> low <0-100> high <0-100000>
```

Global attributes

Flag: !

>   This command applies immediately

Parameters

agch-queue-mgmt

> AGCH queue mgmt

threshold

> Threshold to start cleanup

<0-100>

> in % of the maximum queue length

low

> Low water mark for cleanup

<0-100>

> in % of the maximum queue length

high

> High water mark for cleanup

<0-100000>

> in % of the maximum queue length

1.13.3   band (450|GSM450|480|GSM480|750|GSM750|810|GSM810|850|GSM850|900|GSM900|1800|DCS...

Command

```
band (450|GSM450|480|GSM480|750|GSM750|810|GSM810|850|GSM850|900|GSM900|1800|DCS1800 ←
    |1900|PCS1900)
```

Parameters

band

> Set the frequency band of this BTS

450

> Alias for GSM450

GSM450

> 450Mhz

480

> Alias for GSM480

GSM480

> 480Mhz

750

> Alias for GSM750

GSM750

> 750Mhz

810

> Alias for GSM810

GSM810

    810Mhz

850

    Alias for GSM850

GSM850

    850Mhz

900

    Alias for GSM900

GSM900

    900Mhz

1800

    Alias for DCS1800

DCS1800

    1800Mhz

1900

    Alias for PCS1900

PCS1900

    1900Mhz

1.13.4 description .TEXT

Command

```
description .TEXT
```

Parameters

description

    Save human-readable description of the object

.TEXT

    Text until the end of the line

1.13.5 gsmtap-remote-host [HOSTNAME]

Command

```
gsmtap-remote-host [HOSTNAME]
```

Parameters

gsmtap-remote-host

    Enable GSMTAP Um logging (see also 'gsmtap-sapi')

[HOSTNAME]

    Remote IP address or hostname ('localhost' if omitted)

1.13.6 **gsmtap-sapi (bcch|ccch|rach|agch|pch|sdcch|tch/f|tch/h|pacch|pdtch|ptcch|cbch|sa...**

Command

```
gsmtap-sapi (bcch|ccch|rach|agch|pch|sdcch|tch/f|tch/h|pacch|pdtch|ptcch|cbch|sacch)
```

Parameters

gsmtap-sapi

    Enable sending of UL/DL messages over GSMTAP

bcch

    BCCH

ccch

    CCCH

rach

    RACH

agch

    AGCH

pch

    PCH

sdcch

    SDCCH

tch/f

    TCH/F

tch/h

    TCH/H

pacch

    PACCH

pdtch

    PDTCH

ptcch

    PTCCH

cbch

    CBCH

sacch

    SACCH

1.13.7 gsmtap-sapi (enable-all|disable-all)

Command

```
gsmtap-sapi (enable-all|disable-all)
```

Parameters

gsmtap-sapi
    Enable/disable sending of UL/DL messages over GSMTAP

enable-all
    Enable all kinds of messages (all SAPI)

disable-all
    Disable all kinds of messages (all SAPI)

1.13.8 ipa unit-id <0-65534> <0-255>

Command

```
ipa unit-id <0-65534> <0-255>
```

Parameters

ipa
    ip.access RSL commands

unit-id
    Set the Unit ID of this BTS

<0-65534>
    Site ID

<0-255>
    Unit ID

1.13.9 max-ber10k-rach <0-10000>

Command

```
max-ber10k-rach <0-10000>
```

Global attributes

Flag: !
    This command applies immediately

Parameters

max-ber10k-rach
    Set the maximum BER for valid RACH requests

<0-10000>
    BER in 1/10000 units (0=no BER; 100=1% BER)

1.13.10 min-qual-norm <-100-100>

Command

```
min-qual-norm <-100-100>
```

Global attributes

Flag: !

This command applies immediately

Parameters

min-qual-norm

Set the minimum link quality level of Normal Bursts to be accepted

<-100-100>

C/I (Carrier-to-Interference) ratio in centiBels (10e-2 B or 10e-1 dB)

1.13.11 min-qual-rach <-100-100>

Command

```
min-qual-rach <-100-100>
```

Global attributes

Flag: !

This command applies immediately

Parameters

min-qual-rach

Set the minimum link quality level of Access Bursts to be accepted

<-100-100>

C/I (Carrier-to-Interference) ratio in centiBels (10e-2 B or 10e-1 dB)

1.13.12 no description

Command

```
no description
```

Parameters

no

Negate a command or set its defaults

description

Remove description of the object

1.13.13   no gsmtap-remote-host

Command

```
no gsmtap-remote-host
```

Parameters

no
>   Negate a command or set its defaults

gsmtap-remote-host
>   Disable GSMTAP Um logging

1.13.14   no gsmtap-sapi (bcch|ccch|rach|agch|pch|sdcch|tch/f|tch/h|pacch|pdtch|ptcch|cbch...

Command

```
no gsmtap-sapi (bcch|ccch|rach|agch|pch|sdcch|tch/f|tch/h|pacch|pdtch|ptcch|cbch|sacch)
```

Parameters

no
>   Negate a command or set its defaults

gsmtap-sapi
>   Disable sending of UL/DL messages over GSMTAP

bcch
>   BCCH

ccch
>   CCCH

rach
>   RACH

agch
>   AGCH

pch
>   PCH

sdcch
>   SDCCH

tch/f
>   TCH/F

tch/h
>   TCH/H

pacch
>   PACCH

pdtch

    PDTCH

ptcch

    PTCCH

cbch

    CBCH

sacch

    SACCH

1.13.15   no oml remote-ip A.B.C.D

Command

```
no oml remote-ip A.B.C.D
```

Parameters

no

    Negate a command or set its defaults

oml

    OML Parameters

remote-ip

    OML IP Address

A.B.C.D

    OML IP Address

1.13.16   no supp-meas-info toa256

Command

```
no supp-meas-info toa256
```

Global attributes

Flag: !

    This command applies immediately

Parameters

no

    Negate a command or set its defaults

supp-meas-info

    Configure the RSL Supplementary Measurement Info

toa256

    Report the TOA in 1/256th symbol periods

1.13.17   oml remote-ip A.B.C.D

Command

```
oml remote-ip A.B.C.D
```

Parameters

oml

OML Parameters

remote-ip

OML IP Address

A.B.C.D

OML IP Address

1.13.18   paging lifetime <0-60>

Command

```
paging lifetime <0-60>
```

Global attributes

Flag: !

This command applies immediately

Parameters

paging

Paging related parameters

lifetime

Maximum lifetime of a paging record

<0-60>

Maximum lifetime of a paging record (secods)

1.13.19   paging queue-size <1-1024>

Command

```
paging queue-size <1-1024>
```

Global attributes

Flag: !

This command applies immediately

Parameters

paging

>   Paging related parameters

queue-size

>   Maximum length of BTS-internal paging queue

<1-1024>

>   Maximum length of BTS-internal paging queue

1.13.20   pcu-socket PATH

Command

```
pcu-socket PATH
```

Parameters

pcu-socket

>   Configure the PCU socket file/path name

PATH

>   UNIX socket path

1.13.21   rtp ip-dscp <0-63>

Command

```
rtp ip-dscp <0-63>
```

Application specific attributes

Flag: 1

>   This command applies for newly created lchans

Parameters

rtp

>   RTP parameters

ip-dscp

>   Specify DSCP for RTP/IP packets

<0-63>

>   The DSCP value (upper 6 bits of TOS)

1.13.22 rtp jitter-buffer <0-10000> [adaptive]

Command

```
rtp jitter-buffer <0-10000> [adaptive]
```

Application specific attributes

Flag: 1

This command applies for newly created lchans

Parameters

rtp

RTP parameters

jitter-buffer

RTP jitter buffer

<0-10000>

Jitter buffer in ms

[adaptive]

Enable adaptive RTP jitter buffering

1.13.23 rtp port-range <1-65534> <1-65534>

Command

```
rtp port-range <1-65534> <1-65534>
```

Parameters

rtp

RTP parameters

port-range

Range of local ports to use for RTP/RTCP traffic

<1-65534>

Port range start (inclusive)

<1-65534>

Port range end (inclusive)

1.13.24 rtp socket-priority <0-255>

Command

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

Application specific attributes

Flag: l

This command applies for newly created lchans

Parameters

rtp

RTP parameters

socket-priority

Specify socket priority for RTP/IP packets

<0-255>

The socket priority value (> 6 requires CAP_NET_ADMIN)

1.13.25 smscb queue-hysteresis <0-30>

Command

```
smscb queue-hysteresis <0-30>
```

Global attributes

Flag: !

This command applies immediately

Parameters

smscb

SMSCB (SMS Cell Broadcast) / CBCH configuration

queue-hysteresis

Hysteresis of the SMSCB (CBCH) queue

<0-30>

In count of messages/pages (default: 2)

1.13.26 smscb queue-max-length <1-60>

Command

```
smscb queue-max-length <1-60>
```

Global attributes

Flag: !

This command applies immediately

Parameters

smscb

SMSCB (SMS Cell Broadcast) / CBCH configuration

queue-max-length

Maximum length of the SMSCB (CBCH) queue

<1-60>

Length in count of messages/pages (default: 15)

1.13.27 smscb queue-target-length <1-30>

Command

```
smscb queue-target-length <1-30>
```

Global attributes

Flag: !

This command applies immediately

Parameters

smscb

SMSCB (SMS Cell Broadcast) / CBCH configuration

queue-target-length

Target length of the SMSCB (CBCH) queue

<1-30>

Length in count of messages/pages (default: 2)

1.13.28   supp-meas-info toa256

Command

```
supp-meas-info toa256
```

Global attributes

Flag: !

This command applies immediately

Parameters

supp-meas-info

Configure the RSL Supplementary Measurement Info

toa256

Report the TOA in 1/256th symbol periods

1.13.29   trx <0-254>

Command

```
trx <0-254>
```

Global attributes

Flag: !

This command applies immediately

Parameters

trx

Select a TRX to configure

<0-254>

TRX number

1.14   trx

1.14.1   ms-power-control (dsp|osmo)

Command

```
ms-power-control (dsp|osmo)
```

Parameters

ms-power-control

Mobile Station Power Level Control

dsp

Handled by DSP

osmo

Handled by OsmoBTS

1.14.2 phy <0-255> instance <0-255>

Command

```
phy <0-255> instance <0-255>
```

Parameters

phy

Configure PHY Link+Instance for this TRX

<0-255>

PHY Link number

instance

PHY instance

<0-255>

PHY Instance number

1.14.3 power-ramp max-initial <-10000-100000> (dBm|mdBm)

Command

```
power-ramp max-initial <-10000-100000> (dBm|mdBm)
```

Parameters

power-ramp

Power-Ramp settings

max-initial

Maximum initial power

<-10000-100000>

Value

dBm

Unit is dB (decibels)

mdBm

Unit is mdB (milli-decibels, or rather 1/10000 bel)

1.14.4 power-ramp step-interval <1-100>

Command

```
power-ramp step-interval <1-100>
```

Parameters

power-ramp

    Power-Ramp settings

step-interval

    Power increase by step

<1-100>

    Step time in seconds

1.14.5   power-ramp step-size <1-100000> (dB|mdB)

Command

```
power-ramp step-size <1-100000> (dB|mdB)
```

Parameters

power-ramp

    Power-Ramp settings

step-size

    Power increase by step

<1-100000>

    Step size

dB

    Unit is dB (decibels)

mdB

    Unit is mdB (milli-decibels, or rather 1/10000 bel)

1.14.6   ta-control interval <0-31>

Command

```
ta-control interval <0-31>
```

Parameters

ta-control

    Timing Advance Control Parameters

interval

    Set TA control loop interval

<0-31>

    As in P_CON_INTERVAL, in units of 2 SACCH periods (0.96 seconds) (default=0, every SACCH block)

1.14.7 user-gain <-100000-100000> (dB|mdB)

Command

```
user-gain <-100000-100000> (dB|mdB)
```

Global attributes

Flag: !

This command applies immediately

Parameters

user-gain

Inform BTS about additional, user-provided gain or attenuation at TRX output

<-100000-100000>

Value of user-provided external gain(+)/attenuation(-)

dB

Unit is dB (decibels)

mdB

Unit is mdB (milli-decibels, or rather 1/10000 bel)