

# **OsmoMSC VTY Reference**

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**COLLABORATORS**

	<i>TITLE :</i> OsmoMSC VTY Reference		
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1.20.1	counter (ns7 ns11) <0-255>	159
1.20.2	local-ip A.B.C.D	159
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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

## Common Commands

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

## end

### Command

```
end
```

### Parameters

end

End current mode and change to enable mode.

## exit

### Command

```
exit
```

### Parameters

exit

Exit current mode and down to previous mode

## help

### Command

```
help
```

### Parameters

help

Description of the interactive help system

## list

### Command

```
list
```

### Parameters

list

Print command list



## show running-config

### Command

```
show running-config
```

### Parameters

show

Show running system information

running-config

running configuration

## write

### Command

```
write
```

### Parameters

write

Write running configuration to memory, network, or terminal

## 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

## 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)

---

## write terminal

### Command

```
write terminal
```

### Parameters

#### write

Write running configuration to memory, network, or terminal

#### terminal

Write to terminal

## 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.

## enable

### Command

```
enable
```

### Parameters

#### enable

Turn on privileged mode command

## 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

---

## logging disable

### Command

```
logging disable
```

### Parameters

#### logging

Configure logging

#### disable

Disables logging to this vty

## 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

## 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

---

## logging filter imsi IMSI

### Command

```
logging filter imsi IMSI
```

### Parameters

#### logging

Configure logging

#### filter

Filter log messages

#### imsi

Filter log messages by IMSI

#### IMSI

IMSI to be used as filter

## logging level (rll|cc|mm|rr|mncc|pag|msc|mgcp|ho|db|ref|ctrl|smpp|ranap|vlr|iucs...

### Command

```
logging level (rll|cc|mm|rr|mncc|pag|msc|mgcp|ho|db|ref|ctrl|smpp|ranap|vlr|iucs|bssap| ↔  
sgs|ss|lglobal|llapd|linp|lmux|lmi|lmib|lsms|lctrl|lgtpl|lstats|lgsup|loap|lss7| ↔  
lsccp|lsua|lm3ua|lmgcp|ljibuf|lrspro) (debug|info|notice|error|fatal)
```

### Parameters

#### logging

Configure logging

#### level

Set the log level for a specified category

#### rll

A-bis Radio Link Layer (RLL)

#### cc

Layer3 Call Control (CC)

#### mm

Layer3 Mobility Management (MM)

#### rr

Layer3 Radio Resource (RR)

#### mncc

MNCC API for Call Control application

#### pag

Paging Subsystem

---

msc	Mobile Switching Center
mgcp	Media Gateway Control Protocol
ho	Hand-Over
db	Database Layer
ref	Reference Counting
ctrl	Control interface
smpp	SMPP interface for external SMS apps
ranap	Radio Access Network Application Part Protocol
vlr	Visitor Location Register
iucs	Iu-CS Protocol
bssap	BSSAP Protocol (A Interface)
sgs	SGs Interface (SGsAP)
ss	Supplementary Services
lglobal	Library-internal global log family
llapd	LAPD in libosmogsm
linp	A-bis Input Subsystem
lmux	A-bis B-Subchannel TRAU Frame Multiplex
lmi	A-bis Input Driver for Signalling
lmib	A-bis Input Driver for B-Channels (voice)

---

lsms

Layer3 Short Message Service (SMS)

lctrl

Control Interface

lgtp

GPRS GTP library

lstats

Statistics messages and logging

lgsup

Generic Subscriber Update Protocol

loap

Osmocom Authentication Protocol

lss7

libosmo-sigtran Signalling System 7

lsccp

libosmo-sigtran SCCP Implementation

lsua

libosmo-sigtran SCCP User Adaptation

lm3ua

libosmo-sigtran MTP3 User Adaptation

lmgcp

libosmo-mgcp Media Gateway Control Protocol

ljibuf

libosmo-netif Jitter Buffer

lrspro

Remote SIM protocol

debug

Log debug messages and higher levels

info

Log informational messages and higher levels

notice

Log noticeable messages and higher levels

error

Log error messages and higher levels

fatal

Log only fatal messages

---

## 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

## 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

## 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

## 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>')



## 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

## 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.

## 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

## 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

## 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

**logp (rll|cc|mm|rr|mncc|pag|msc|mgcp|ho|db|ref|ctrl|smpp|ranap|vlr|iucs|bssap|sg...****Command**

```
logp (rll|cc|mm|rr|mncc|pag|msc|mgcp|ho|db|ref|ctrl|smpp|ranap|vlr|iucs|bssap|sgs|ss| ↔
lglobal|llapd|linp|lmux|lmi|lmib|lsms|lctrl|lgtp|lstats|lgsup|loap|lss7|lsccp|lsua| ↔
lm3ua|lmgcp|ljibuf|lrspro) (debug|info|notice|error|fatal) .LOGMESSAGE
```

**Parameters****logp**

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

**rll**

A-bis Radio Link Layer (RLL)

**cc**

Layer3 Call Control (CC)

**mm**

Layer3 Mobility Management (MM)

**rr**

Layer3 Radio Resource (RR)

**mncc**

MNCC API for Call Control application

**pag**

Paging Subsystem

**msc**

Mobile Switching Center

**mgcp**

Media Gateway Control Protocol

**ho**

Hand-Over

**db**

Database Layer

---

ref  
Reference Counting

ctrl  
Control interface

smpp  
SMPP interface for external SMS apps

ranap  
Radio Access Network Application Part Protocol

vlr  
Visitor Location Register

iucs  
Iu-CS Protocol

bssap  
BSSAP Protocol (A Interface)

sgs  
SGs Interface (SGsAP)

ss  
Supplementary Services

lglobal  
Library-internal global log family

llapd  
LAPD in libosmogsm

linp  
A-bis Input Subsystem

lmux  
A-bis B-Subchannel TRAU Frame Multiplex

lmi  
A-bis Input Driver for Signalling

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

lsms  
Layer3 Short Message Service (SMS)

lctrl  
Control Interface

lgtp  
GPRS GTP library

lstats  
Statistics messages and logging

---

lgsup	Generic Subscriber Update Protocol
loap	Osmocom Authentication Protocol
lss7	libosmo-sigtran Signalling System 7
lsccp	libosmo-sigtran SCCP Implementation
lsua	libosmo-sigtran SCCP User Adaptation
lm3ua	libosmo-sigtran MTP3 User Adaptation
lmgcp	libosmo-mgcp Media Gateway Control Protocol
ljibuf	libosmo-netif Jitter Buffer
lrspro	Remote SIM protocol
debug	Log debug messages and higher levels
info	Log informational messages and higher levels
notice	Log noticeable messages and higher levels
error	Log error messages and higher levels
fatal	Log only fatal messages
.LOGMESSAGE	Arbitrary message to log on given category and log level

## 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>'

## show alarms

Command

```
show alarms
```

Parameters

show

Show running system information

alarms

Show current logging configuration

## show asciidoc counters

Command

```
show asciidoc counters
```

Parameters

show

Show running system information

asciidoc

Asciidoc generation

counters

Generate table of all registered counters

## show bsc

Command

```
show bsc
```

Parameters

show

Show running system information

bsc

BSC

---

## show connection [trans]

### Command

```
show connection [trans]
```

### Parameters

show

Show running system information

connection

Subscriber Connections

[trans]

Show child transactions of each connection

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

### Command

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

### Parameters

show

Show running system information

cs7

ITU-T Signaling System 7

sua

SCCP User Adaptation

m3ua

MTP3 User Adaptation

ipa

IPA Multiplex (SCCP Lite)

[<0-65534>]

Port Number

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

### Command

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

### Parameters

---

show  
    Show running system information

cs7  
    ITU-T Signaling System 7

instance  
    An instance of the SS7 stack

<0-15>  
    An instance of the SS7 stack

as  
    Application Server (AS)

active  
    Display all active ASs

all  
    Display all ASs (default)

m3ua  
    Display all m3ua ASs

sua  
    Display all SUA ASs

### **show cs7 instance <0-15> asp**

#### Command

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

#### Parameters

show  
    Show running system information

cs7  
    ITU-T Signaling System 7

instance  
    An instance of the SS7 stack

<0-15>  
    An instance of the SS7 stack

asp  
    Application Server Process (ASP)



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

## Command

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

## Parameters

## show

Show running system information

## cs7

ITU-T Signaling System 7

## instance

An instance of the SS7 stack

## &lt;0-15&gt;

An instance of the SS7 stack

## sccp

Signalling Connection Control Part

## addressbook

List all SCCP addressbook entries

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

## Command

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

## Parameters

## show

Show running system information

## cs7

ITU-T Signaling System 7

## instance

An instance of the SS7 stack

## &lt;0-15&gt;

An instance of the SS7 stack

## sccp

Signalling Connection Control Part

## connections

Show List of active SCCP connections

---

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

## Command

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

## Parameters

show

Show running system information

cs7

ITU-T Signaling System 7

instance

An instance of the SS7 stack

&lt;0-15&gt;

An instance of the SS7 stack

sccp

Signalling Connection Control Part

ssn

Find an SCCP User registered for the given SSN

&lt;0-65535&gt;

Subsystem Number (SSN)

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

## Command

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

## Parameters

show

Show running system information

cs7

ITU-T Signaling System 7

instance

An instance of the SS7 stack

&lt;0-15&gt;

An instance of the SS7 stack

sccp

Signaling Connection Control Part

timers

Show List of SCCP timers

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

## Command

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

## Parameters

## show

Show running system information

## cs7

ITU-T Signaling System 7

## instance

An instance of the SS7 stack

## &lt;0-15&gt;

An instance of the SS7 stack

## sccp

Signalling Connection Control Part

## users

Show List of SCCP Users registered

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

## Command

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

## Parameters

## show

Show running system information

## cs7

ITU-T Signaling System 7

## instance

An instance of the SS7 stack

## &lt;0-15&gt;

An instance of the SS7 stack

## users

User Table

## 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

## 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

## 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

---

## 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

## show history

### Command

```
show history
```

### Parameters

#### show

Show running system information

#### history

Display the session command history

## 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

---

## show neighbor

### Command

```
show neighbor
```

### Parameters

show

Show running system information

neighbor

Show Handover targets

## show neighbor (a|iu)

### Command

```
show neighbor (a|iu)
```

### Parameters

show

Show running system information

neighbor

Show Handover targets

a

Neighbor on GERAN-A

iu

Neighbor on UTRAN-Iu

## show neighbor (a|iu) (ran-pc|msc-ipa-name) RAN\_PC\_OR\_MSC\_IPA\_NAME

### Command

```
show neighbor (a|iu) (ran-pc|msc-ipa-name) RAN_PC_OR_MSC_IPA_NAME
```

### Parameters

show

Show running system information

neighbor

Show Handover targets

a

Neighbor on GERAN-A

iu

Neighbor on UTRAN-Iu

ran-pc

SCCP point code of RAN peer

msc-ipa-name

GSUP IPA name of target MSC

RAN\_PC\_OR\_MSC\_IPA\_NAME

Point code or MSC IPA name value

## **show neighbor (a|iu) cgi <0-999> <0-999> <0-65535> <0-65535>**

Command

```
show neighbor (a|iu) cgi <0-999> <0-999> <0-65535> <0-65535>
```

Parameters

show

Show running system information

neighbor

Show Handover targets

a

Neighbor on GERAN-A

iu

Neighbor on UTRAN-Iu

cgi

Handover target cell by Cell-Global Identifier (MCC, MNC, LAC, CI)

<0-999>

MCC

<0-999>

MNC

<0-65535>

LAC

<0-65535>

CI

**show neighbor (a|iu) lac <0-65535>**

## Command

```
show neighbor (a|iu) lac <0-65535>
```

## Parameters

show

Show running system information

neighbor

Show Handover targets

a

Neighbor on GERAN-A

iu

Neighbor on UTRAN-Iu

lac

Handover target cell by LAC

&lt;0-65535&gt;

LAC

**show neighbor (a|iu) lac-ci <0-65535> <0-65535>**

## Command

```
show neighbor (a|iu) lac-ci <0-65535> <0-65535>
```

## Parameters

show

Show running system information

neighbor

Show Handover targets

a

Neighbor on GERAN-A

iu

Neighbor on UTRAN-Iu

lac-ci

Handover target cell by LAC and CI

&lt;0-65535&gt;

LAC

&lt;0-65535&gt;

CI



**show neighbor cgi <0-999> <0-999> <0-65535> <0-65535>**

## Command

```
show neighbor cgi <0-999> <0-999> <0-65535> <0-65535>
```

## Parameters

## show

Show running system information

## neighbor

Show Handover targets

## cgi

Handover target cell by Cell-Global Identifier (MCC, MNC, LAC, CI)

## &lt;0-999&gt;

MCC

## &lt;0-999&gt;

MNC

## &lt;0-65535&gt;

LAC

## &lt;0-65535&gt;

CI

**show neighbor lac <0-65535>**

## Command

```
show neighbor lac <0-65535>
```

## Parameters

## show

Show running system information

## neighbor

Show Handover targets

## lac

Handover target cell by LAC

## &lt;0-65535&gt;

LAC

## show neighbor lac-ci <0-65535> <0-65535>

### Command

```
show neighbor lac-ci <0-65535> <0-65535>
```

### Parameters

#### show

Show running system information

#### neighbor

Show Handover targets

#### lac-ci

Handover target cell by LAC and CI

<0-65535>

LAC

<0-65535>

CI

## show online-help

### Command

```
show online-help
```

### Parameters

#### show

Show running system information

#### online-help

Online help

## show rate-counters

### Command

```
show rate-counters
```

### Parameters

#### show

Show running system information

#### rate-counters

Show all rate counters

---

## show sgs-connections

### Command

```
show sgs-connections
```

### Parameters

show

Show running system information

sgs-connections

Show SGs interface connections / MMEs

## show smpp esme

### Command

```
show smpp esme
```

### Parameters

show

Show running system information

smpp

SMPP Interface

esme

SMPP External SMS Entity

## show sms-queue

### Command

```
show sms-queue
```

### Parameters

show

Show running system information

sms-queue

Display SMSQueue statistics

## show statistics

### Command

```
show statistics
```

### Parameters

#### show

Show running system information

#### statistics

Display network statistics

## show stats

### Command

```
show stats
```

### Parameters

#### show

Show running system information

#### stats

Show statistical values

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

### Command

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

### Parameters

#### show

Show running system information

#### stats

Show statistical values

#### level

Set the maximum group level

#### global

Show global groups only

#### peer

Show global and network peer related groups

#### subscriber

Show global, peer, and subscriber groups

---

**show subscriber (msisdn|extension|imsi|tmsi|id) ID [(conn|trans|conn+trans)]**

## Command

```
show subscriber (msisdn|extension|imsi|tmsi|id) ID [(conn|trans|conn+trans)]
```

## Parameters

## show

Show running system information

## subscriber

Operations on a Subscriber

## msisdn

Identify subscriber by MSISDN (phone number)

## extension

Legacy alias for 'msisdn'

## imsi

Identify subscriber by IMSI

## tmsi

Identify subscriber by TMSI

## id

Legacy alias for 'imsi'

## ID

Identifier for the subscriber

## [conn]

Show child connections

## [trans]

Show child transactions

## [conn+trans]

Show child connections and transactions

**show subscriber cache [(conn|trans|conn+trans)]**

## Command

```
show subscriber cache [(conn|trans|conn+trans)]
```

## Parameters

## show

Show running system information

## subscriber

Show information about subscribers

cache

Display contents of subscriber cache

[conn]

Show child connections

[trans]

Show child transactions

[conn+trans]

Show child connections and transactions

## **show talloc-context (application|all) (full|brief|DEPTH)**

Command

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

Parameters

show

Show running system information

talloc-context

Show talloc memory hierarchy

application

Application's context

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

## **show talloc-context (application|all) (full|brief|DEPTH) filter REGEXP**

Command

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

Parameters

show

Show running system information

**talloc-context**  
Show talloc memory hierarchy

**application**  
Application's context

**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

### **show talloc-context (application|all) (full|brief|DEPTH) tree ADDRESS**

#### Command

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

#### Parameters

**show**  
Show running system information

**talloc-context**  
Show talloc memory hierarchy

**application**  
Application's context

**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)

**show timer [(vlr|mgw|mncc|sccp|geran|utran|sgs)] [TNNNN]**

## Command

```
show timer [(vlr|mgw|mncc|sccp|geran|utran|sgs)] [TNNNN]
```

## Parameters

## show

Show running system information

## timer

Show timers

## [vlr]

VLR (Visitors Location Register)

## [mgw]

MGW (Media Gateway) interface

## [mncc]

MNCC (Mobile Network Call Control) interface

## [sccp]

SCCP (Signalling Connection Control Part)

## [geran]

GERAN (GSM EDGE Radio Access Network)

## [utran]

UTRAN (UMTS Terrestrial Radio Access Network)

## [sgs]

SGs interface towards MME

## [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'.

**show transaction**

## Command

```
show transaction
```

## Parameters

## show

Show running system information

## transaction

Transactions



## show version

### Command

```
show version
```

### Parameters

#### show

Show running system information

#### version

Displays program version

## sms delete expired

### Command

```
sms delete expired
```

### Parameters

#### sms

SMS related commands

#### delete

SMS Database related commands

#### expired

Delete all expired SMS

## sms send pending

### Command

```
sms send pending
```

### Parameters

#### sms

SMS related commands

#### send

SMS Sending related commands

#### pending

Send all pending SMS

**subscriber (msisdn|extension|imsi|tmsi|id) ID ms-test close-loop (a|b|c|d|e|f|i)**

## Command

```
subscriber (msisdn|extension|imsi|tmsi|id) ID ms-test close-loop (a|b|c|d|e|f|i)
```

## Parameters

## subscriber

Operations on a Subscriber

## msisdn

Identify subscriber by MSISDN (phone number)

## extension

Legacy alias for 'msisdn'

## imsi

Identify subscriber by IMSI

## tmsi

Identify subscriber by TMSI

## id

Legacy alias for 'imsi'

## ID

Identifier for the subscriber

## ms-test

Send a TS 04.14 MS Test Command to subscriber

## close-loop

Close a TCH Loop inside the MS

## a

Loop Type A

## b

Loop Type B

## c

Loop Type C

## d

Loop Type D

## e

Loop Type E

## f

Loop Type F

## i

Loop Type I

## **subscriber (msisdn|extension|imsi|tmsi|id) ID ms-test open-loop**

### Command

```
subscriber (msisdn|extension|imsi|tmsi|id) ID ms-test open-loop
```

### Parameters

#### subscriber

Operations on a Subscriber

#### msisdn

Identify subscriber by MSISDN (phone number)

#### extension

Legacy alias for 'msisdn'

#### imsi

Identify subscriber by IMSI

#### tmsi

Identify subscriber by TMSI

#### id

Legacy alias for 'imsi'

#### ID

Identifier for the subscriber

#### ms-test

Send a TS 04.14 MS Test Command to subscriber

#### open-loop

Open a TCH Loop inside the MS

## **subscriber (msisdn|extension|imsi|tmsi|id) ID paging**

### Command

```
subscriber (msisdn|extension|imsi|tmsi|id) ID paging
```

### Parameters

#### subscriber

Operations on a Subscriber

#### msisdn

Identify subscriber by MSISDN (phone number)

#### extension

Legacy alias for 'msisdn'

#### imsi

Identify subscriber by IMSI

tmsi

Identify subscriber by TMSI

id

Legacy alias for 'imsi'

ID

Identifier for the subscriber

paging

Issue an empty Paging for the subscriber (for debugging)

## **subscriber (msisdn|extension|imsi|tmsi|id) ID silent-call start (any|tch/f|tch/h...**

Command

```
subscriber (msisdn|extension|imsi|tmsi|id) ID silent-call start (any|tch/f|tch/h|tch/ ↔  
any|sdccch) (signalling|speech-hr|speech-fr|speech-efr|speech-amr) [IP] [<0-65535>]
```

Parameters

subscriber

Operations on a Subscriber

msisdn

Identify subscriber by MSISDN (phone number)

extension

Legacy alias for 'msisdn'

imsi

Identify subscriber by IMSI

tmsi

Identify subscriber by TMSI

id

Legacy alias for 'imsi'

ID

Identifier for the subscriber

silent-call

Silent call operation

start

Start silent call

any

Any channel

tch/f

TCH/F channel

tch/h

TCH/H channel

tch/any

Any TCH channel

sdccch

SDCCCH channel

signalling

Signalling only

speech-hr

Speech with HR codec

speech-fr

Speech with FR codec

speech-efr

Speech with EFR codec

speech-amr

Speech with AMR codec

[IP]

Target IP for RTP traffic (default 127.0.0.1)

[<0-65535>]

Target port for RTP traffic (default: 4000)

## **subscriber (msisdn|extension|imsi|tmsi|id) ID silent-call stop**

Command

```
subscriber (msisdn|extension|imsi|tmsi|id) ID silent-call stop
```

Parameters

subscriber

Operations on a Subscriber

msisdn

Identify subscriber by MSISDN (phone number)

extension

Legacy alias for 'msisdn'

imsi

Identify subscriber by IMSI

tmsi

Identify subscriber by TMSI

id

Legacy alias for 'imsi'

**ID**

Identifier for the subscriber

**silent-call**

Silent call operation

**stop**

Stop silent call

**subscriber (msisdn|extension|imsi|tmsi|id) ID silent-sms sender (msisdn|extension|imsi|tmsi|id) SENDER\_ID send .LINE****Command**

```
subscriber (msisdn|extension|imsi|tmsi|id) ID silent-sms sender (msisdn|extension|imsi|tmsi|id) SENDER_ID send .LINE
```

**Parameters****subscriber**

Operations on a Subscriber

**msisdn**

Identify subscriber by MSISDN (phone number)

**extension**

Legacy alias for 'msisdn'

**imsi**

Identify subscriber by IMSI

**tmsi**

Identify subscriber by TMSI

**id**

Legacy alias for 'imsi'

**ID**

Identifier for the subscriber

**silent-sms**

Silent SMS Operations

**sender**

Operations on a Subscriber

**msisdn**

Identify subscriber by MSISDN (phone number)

**extension**

Legacy alias for 'msisdn'

**imsi**

Identify subscriber by IMSI

tmsi

Identify subscriber by TMSI

id

Legacy alias for 'imsi'

SENDER\_ID

Identifier for the subscriber

send

Send SMS

.LINE

Actual SMS Text

## **subscriber (msisdn|extension|imsi|tmsi|id) ID sms sender (msisdn|extension|imsi|...**

Command

```
subscriber (msisdn|extension|imsi|tmsi|id) ID sms sender (msisdn|extension|imsi|tmsi|id ↔  
    ) SENDER_ID send .LINE
```

Parameters

subscriber

Operations on a Subscriber

msisdn

Identify subscriber by MSISDN (phone number)

extension

Legacy alias for 'msisdn'

imsi

Identify subscriber by IMSI

tmsi

Identify subscriber by TMSI

id

Legacy alias for 'imsi'

ID

Identifier for the subscriber

sms

SMS Operations

sender

Operations on a Subscriber

msisdn

Identify subscriber by MSISDN (phone number)

---

**extension**

Legacy alias for 'msisdn'

**imsi**

Identify subscriber by IMSI

**tmsi**

Identify subscriber by TMSI

**id**

Legacy alias for 'imsi'

**SENDER\_ID**

Identifier for the subscriber

**send**

Send SMS

**.LINE**

Actual SMS Text

**subscriber (msisdn|extension|imsi|tmsi|id) ID ussd-notify (0|1|2) .TEXT****Command**

```
subscriber (msisdn|extension|imsi|tmsi|id) ID ussd-notify (0|1|2) .TEXT
```

**Parameters****subscriber**

Operations on a Subscriber

**msisdn**

Identify subscriber by MSISDN (phone number)

**extension**

Legacy alias for 'msisdn'

**imsi**

Identify subscriber by IMSI

**tmsi**

Identify subscriber by TMSI

**id**

Legacy alias for 'imsi'

**ID**

Identifier for the subscriber

**ussd-notify**

Send a USSD notify to the subscriber

**0**

Alerting Level 0



1

Alerting Level 1

2

Alerting Level 2

.TEXT

Text of USSD message to send

## **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)

## **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

## **who**

Command

```
who
```

Parameters

who

Display who is on vty

---

## 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.

### configure terminal

#### Command

```
configure terminal
```

#### Parameters

##### configure

Configuration from vty interface

##### terminal

Configuration terminal

### 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)

## disable

#### Command

```
disable
```

#### Parameters

##### disable

Turn off privileged mode command

## 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

## logging disable

### Command

```
logging disable
```

### Parameters

#### logging

Configure logging

#### disable

Disables logging to this vty

## 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

---

## 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

## logging filter imsi IMSI

### Command

```
logging filter imsi IMSI
```

### Parameters

#### logging

Configure logging

#### filter

Filter log messages

#### imsi

Filter log messages by IMSI

#### IMSI

IMSI to be used as filter

---

**logging level (rll|cc|mm|rr|mncc|pag|msc|mgcp|ho|db|ref|ctrl|smpp|ranap|vlr|iucs...**

## Command

```
logging level (rll|cc|mm|rr|mncc|pag|msc|mgcp|ho|db|ref|ctrl|smpp|ranap|vlr|iucs|bssap| ↵  
sgs|ss|lglobal|llapd|linp|lmux|lmi|lmib|lsms|lctrl|lgtp|lstats|lgsup|loap|lss7| ↵  
lsccp|lsua|lm3ua|lmgcp|ljibuf|lrspro) (debug|info|notice|error|fatal)
```

## Parameters

## logging

Configure logging

## level

Set the log level for a specified category

## rll

A-bis Radio Link Layer (RLL)

## cc

Layer3 Call Control (CC)

## mm

Layer3 Mobility Management (MM)

## rr

Layer3 Radio Resource (RR)

## mncc

MNCC API for Call Control application

## pag

Paging Subsystem

## msc

Mobile Switching Center

## mgcp

Media Gateway Control Protocol

## ho

Hand-Over

## db

Database Layer

## ref

Reference Counting

## ctrl

Control interface

## smpp

SMPP interface for external SMS apps

---

ranap  
Radio Access Network Application Part Protocol

vlr  
Visitor Location Register

iucs  
Iu-CS Protocol

bssap  
BSSAP Protocol (A Interface)

sgs  
SGs Interface (SGsAP)

ss  
Supplementary Services

lglobal  
Library-internal global log family

llapd  
LAPD in libosmogsm

linp  
A-bis Input Subsystem

lmux  
A-bis B-Subchannel TRAU Frame Multiplex

lmi  
A-bis Input Driver for Signalling

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

lsms  
Layer3 Short Message Service (SMS)

lctrl  
Control Interface

lgtp  
GPRS GTP library

lstats  
Statistics messages and logging

lgsup  
Generic Subscriber Update Protocol

loap  
Osmocom Authentication Protocol

lss7  
libosmo-sigtran Signalling System 7

---

lsccp	libosmo-sigtran SCCP Implementation
lsua	libosmo-sigtran SCCP User Adaptation
lm3ua	libosmo-sigtran MTP3 User Adaptation
lmgcp	libosmo-mgcp Media Gateway Control Protocol
ljibuf	libosmo-netif Jitter Buffer
lrspro	Remote SIM protocol
debug	Log debug messages and higher levels
info	Log informational messages and higher levels
notice	Log noticeable messages and higher levels
error	Log error messages and higher levels
fatal	Log only fatal messages

### 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

**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

**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

### 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>')

### 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

### 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.

### 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

## 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

## 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

---

**logp (rll|cc|mm|rr|mncc|pag|msc|mgcp|ho|db|ref|ctrl|smpp|ranap|vlr|iucs|bssap|sg...**

## Command

```
logp (rll|cc|mm|rr|mncc|pag|msc|mgcp|ho|db|ref|ctrl|smpp|ranap|vlr|iucs|bssap|sgs|ss| ↵  
lglobal|llapd|linp|lmux|lmi|lmib|lsms|lctrl|lgtp|lstats|lgsup|loap|lss7|lsccp|lsua| ↵  
lm3ua|lmgcp|ljibuf|lrspro) (debug|info|notice|error|fatal) .LOGMESSAGE
```

## Parameters

## logp

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

## rll

A-bis Radio Link Layer (RLL)

## cc

Layer3 Call Control (CC)

## mm

Layer3 Mobility Management (MM)

## rr

Layer3 Radio Resource (RR)

## mncc

MNCC API for Call Control application

## pag

Paging Subsystem

## msc

Mobile Switching Center

## mgcp

Media Gateway Control Protocol

## ho

Hand-Over

## db

Database Layer

## ref

Reference Counting

## ctrl

Control interface

## smpp

SMPP interface for external SMS apps

## ranap

Radio Access Network Application Part Protocol

---

vlr  
Visitor Location Register

iucs  
Iu-CS Protocol

bssap  
BSSAP Protocol (A Interface)

sgs  
SGs Interface (SGsAP)

ss  
Supplementary Services

lglobal  
Library-internal global log family

llapd  
LAPD in libosmogsm

linp  
A-bis Input Subsystem

lmux  
A-bis B-Subchannel TRAU Frame Multiplex

lmi  
A-bis Input Driver for Signalling

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

lsms  
Layer3 Short Message Service (SMS)

lctrl  
Control Interface

lgtp  
GPRS GTP library

lstats  
Statistics messages and logging

lgsup  
Generic Subscriber Update Protocol

loap  
Osmocom Authentication Protocol

lss7  
libosmo-sigtran Signalling System 7

lsccp  
libosmo-sigtran SCCP Implementation

---

lsua  
libosmo-sigtran SCCP User Adaptation

lm3ua  
libosmo-sigtran MTP3 User Adaptation

lmgcp  
libosmo-mgcp Media Gateway Control Protocol

ljibuf  
libosmo-netif Jitter Buffer

lrspro  
Remote SIM protocol

debug  
Log debug messages and higher levels

info  
Log informational messages and higher levels

notice  
Log noticeable messages and higher levels

error  
Log error messages and higher levels

fatal  
Log only fatal messages

.LOGMESSAGE  
Arbitrary message to log on given category and log level

## 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>'

## show alarms

### Command

```
show alarms
```

### Parameters

#### show

Show running system information

#### alarms

Show current logging configuration

## show asciidoc counters

### Command

```
show asciidoc counters
```

### Parameters

#### show

Show running system information

#### asciidoc

Asciidoc generation

#### counters

Generate table of all registered counters

## show bsc

### Command

```
show bsc
```

### Parameters

#### show

Show running system information

#### bsc

BSC

## show connection [trans]

### Command

```
show connection [trans]
```

### Parameters

show

Show running system information

connection

Subscriber Connections

[trans]

Show child transactions of each connection

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

### Command

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

### Parameters

show

Show running system information

cs7

ITU-T Signaling System 7

sua

SCCP User Adaptation

m3ua

MTP3 User Adaptation

ipa

IPA Multiplex (SCCP Lite)

[<0-65534>]

Port Number

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

### Command

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

### Parameters

---



show  
    Show running system information

cs7  
    ITU-T Signaling System 7

instance  
    An instance of the SS7 stack

<0-15>  
    An instance of the SS7 stack

as  
    Application Server (AS)

active  
    Display all active ASs

all  
    Display all ASs (default)

m3ua  
    Display all m3ua ASs

sua  
    Display all SUA ASs

### **show cs7 instance <0-15> asp**

#### Command

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

#### Parameters

show  
    Show running system information

cs7  
    ITU-T Signaling System 7

instance  
    An instance of the SS7 stack

<0-15>  
    An instance of the SS7 stack

asp  
    Application Server Process (ASP)

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

## Command

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

## Parameters

## show

Show running system information

## cs7

ITU-T Signaling System 7

## instance

An instance of the SS7 stack

## &lt;0-15&gt;

An instance of the SS7 stack

## sccp

Signalling Connection Control Part

## addressbook

List all SCCP addressbook entries

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

## Command

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

## Parameters

## show

Show running system information

## cs7

ITU-T Signaling System 7

## instance

An instance of the SS7 stack

## &lt;0-15&gt;

An instance of the SS7 stack

## sccp

Signalling Connection Control Part

## connections

Show List of active SCCP connections

---

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

## Command

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

## Parameters

show

Show running system information

cs7

ITU-T Signaling System 7

instance

An instance of the SS7 stack

&lt;0-15&gt;

An instance of the SS7 stack

sccp

Signalling Connection Control Part

ssn

Find an SCCP User registered for the given SSN

&lt;0-65535&gt;

Subsystem Number (SSN)

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

## Command

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

## Parameters

show

Show running system information

cs7

ITU-T Signaling System 7

instance

An instance of the SS7 stack

&lt;0-15&gt;

An instance of the SS7 stack

sccp

Signaling Connection Control Part

timers

Show List of SCCP timers

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

## Command

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

## Parameters

## show

Show running system information

## cs7

ITU-T Signaling System 7

## instance

An instance of the SS7 stack

## &lt;0-15&gt;

An instance of the SS7 stack

## sccp

Signalling Connection Control Part

## users

Show List of SCCP Users registered

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

## Command

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

## Parameters

## show

Show running system information

## cs7

ITU-T Signaling System 7

## instance

An instance of the SS7 stack

## &lt;0-15&gt;

An instance of the SS7 stack

## users

User Table

---

## 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

## 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

## 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

---

## 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

## show history

### Command

```
show history
```

### Parameters

#### show

Show running system information

#### history

Display the session command history

## 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

---

## show neighbor

### Command

```
show neighbor
```

### Parameters

show

Show running system information

neighbor

Show Handover targets

## show neighbor (a|iu)

### Command

```
show neighbor (a|iu)
```

### Parameters

show

Show running system information

neighbor

Show Handover targets

a

Neighbor on GERAN-A

iu

Neighbor on UTRAN-Iu

## show neighbor (a|iu) (ran-pc|msc-ipa-name) RAN\_PC\_OR\_MSC\_IPA\_NAME

### Command

```
show neighbor (a|iu) (ran-pc|msc-ipa-name) RAN_PC_OR_MSC_IPA_NAME
```

### Parameters

show

Show running system information

neighbor

Show Handover targets

a

Neighbor on GERAN-A

iu

Neighbor on UTRAN-Iu

ran-pc

SCCP point code of RAN peer

msc-ipa-name

GSUP IPA name of target MSC

RAN\_PC\_OR\_MSC\_IPA\_NAME

Point code or MSC IPA name value

## **show neighbor (a|iu) cgi <0-999> <0-999> <0-65535> <0-65535>**

Command

```
show neighbor (a|iu) cgi <0-999> <0-999> <0-65535> <0-65535>
```

Parameters

show

Show running system information

neighbor

Show Handover targets

a

Neighbor on GERAN-A

iu

Neighbor on UTRAN-Iu

cgi

Handover target cell by Cell-Global Identifier (MCC, MNC, LAC, CI)

<0-999>

MCC

<0-999>

MNC

<0-65535>

LAC

<0-65535>

CI



**show neighbor (a|iu) lac <0-65535>**

## Command

```
show neighbor (a|iu) lac <0-65535>
```

## Parameters

show

Show running system information

neighbor

Show Handover targets

a

Neighbor on GERAN-A

iu

Neighbor on UTRAN-Iu

lac

Handover target cell by LAC

&lt;0-65535&gt;

LAC

**show neighbor (a|iu) lac-ci <0-65535> <0-65535>**

## Command

```
show neighbor (a|iu) lac-ci <0-65535> <0-65535>
```

## Parameters

show

Show running system information

neighbor

Show Handover targets

a

Neighbor on GERAN-A

iu

Neighbor on UTRAN-Iu

lac-ci

Handover target cell by LAC and CI

&lt;0-65535&gt;

LAC

&lt;0-65535&gt;

CI

**show neighbor cgi <0-999> <0-999> <0-65535> <0-65535>**

## Command

```
show neighbor cgi <0-999> <0-999> <0-65535> <0-65535>
```

## Parameters

## show

Show running system information

## neighbor

Show Handover targets

## cgi

Handover target cell by Cell-Global Identifier (MCC, MNC, LAC, CI)

## &lt;0-999&gt;

MCC

## &lt;0-999&gt;

MNC

## &lt;0-65535&gt;

LAC

## &lt;0-65535&gt;

CI

**show neighbor lac <0-65535>**

## Command

```
show neighbor lac <0-65535>
```

## Parameters

## show

Show running system information

## neighbor

Show Handover targets

## lac

Handover target cell by LAC

## &lt;0-65535&gt;

LAC

## show neighbor lac-ci <0-65535> <0-65535>

### Command

```
show neighbor lac-ci <0-65535> <0-65535>
```

### Parameters

#### show

Show running system information

#### neighbor

Show Handover targets

#### lac-ci

Handover target cell by LAC and CI

<0-65535>

LAC

<0-65535>

CI

## show online-help

### Command

```
show online-help
```

### Parameters

#### show

Show running system information

#### online-help

Online help

## show rate-counters

### Command

```
show rate-counters
```

### Parameters

#### show

Show running system information

#### rate-counters

Show all rate counters

---

## show sgs-connections

### Command

```
show sgs-connections
```

### Parameters

show

Show running system information

sgs-connections

Show SGs interface connections / MMEs

## show smpp esme

### Command

```
show smpp esme
```

### Parameters

show

Show running system information

smpp

SMPP Interface

esme

SMPP External SMS Entity

## show sms-queue

### Command

```
show sms-queue
```

### Parameters

show

Show running system information

sms-queue

Display SMSQueue statistics

## show startup-config

### Command

```
show startup-config
```

### Parameters

#### show

Show running system information

#### startup-config

Contentes of startup configuration

## show statistics

### Command

```
show statistics
```

### Parameters

#### show

Show running system information

#### statistics

Display network statistics

## show stats

### Command

```
show stats
```

### Parameters

#### show

Show running system information

#### stats

Show statistical values

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

### Command

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

### Parameters

#### show

Show running system information

#### stats

Show statistical values

#### level

Set the maximum group level

#### global

Show global groups only

#### peer

Show global and network peer related groups

#### subscriber

Show global, peer, and subscriber groups

## show subscriber (msisdn|extension|imsi|tmsi|id) ID [(conn|trans|conn+trans)]

### Command

```
show subscriber (msisdn|extension|imsi|tmsi|id) ID [(conn|trans|conn+trans)]
```

### Parameters

#### show

Show running system information

#### subscriber

Operations on a Subscriber

#### msisdn

Identify subscriber by MSISDN (phone number)

#### extension

Legacy alias for 'msisdn'

#### imsi

Identify subscriber by IMSI

#### tmsi

Identify subscriber by TMSI

#### id

Legacy alias for 'imsi'

**ID**

Identifier for the subscriber

**[conn]**

Show child connections

**[trans]**

Show child transactions

**[conn+trans]**

Show child connections and transactions

**show subscriber cache [(conn|trans|conn+trans)]****Command**

```
show subscriber cache [(conn|trans|conn+trans)]
```

**Parameters****show**

Show running system information

**subscriber**

Show information about subscribers

**cache**

Display contents of subscriber cache

**[conn]**

Show child connections

**[trans]**

Show child transactions

**[conn+trans]**

Show child connections and transactions

**show talloc-context (application|all) (full|brief|DEPTH)****Command**

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

**Parameters****show**

Show running system information

**talloc-context**

Show talloc memory hierarchy

application

Application's context

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

## **show talloc-context (application|all) (full|brief|DEPTH) filter REGEXP**

Command

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

Parameters

show

Show running system information

talloc-context

Show talloc memory hierarchy

application

Application's context

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

---



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

## Command

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

## Parameters

## show

Show running system information

## talloc-context

Show talloc memory hierarchy

## application

Application's context

## 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)

**show timer [(vlr|mgw|mncc|sccp|geran|utran|sgs)] [TNNNN]**

## Command

```
show timer [(vlr|mgw|mncc|sccp|geran|utran|sgs)] [TNNNN]
```

## Parameters

## show

Show running system information

## timer

Show timers

## [vlr]

VLR (Visitors Location Register)

## [mgw]

MGW (Media Gateway) interface

[mncc]

MNCC (Mobile Network Call Control) interface

[sccp]

SCCP (Signalling Connection Control Part)

[geran]

GERAN (GSM EDGE Radio Access Network)

[utran]

UTRAN (UMTS Terrestrial Radio Access Network)

[sgs]

SGs interface towards MME

[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'.

## show transaction

Command

```
show transaction
```

Parameters

show

Show running system information

transaction

Transactions

## show version

Command

```
show version
```

Parameters

show

Show running system information

version

Displays program version

## sms delete expired

### Command

```
sms delete expired
```

### Parameters

sms

SMS related commands

delete

SMS Database related commands

expired

Delete all expired SMS

## sms send pending

### Command

```
sms send pending
```

### Parameters

sms

SMS related commands

send

SMS Sending related commands

pending

Send all pending SMS

## sms-queue clear

### Command

```
sms-queue clear
```

### Parameters

sms-queue

SMS Queue

clear

Clear the queue of pending SMS

## **sms-queue max-failure <1-500>**

### Command

```
sms-queue max-failure <1-500>
```

### Parameters

sms-queue

SMS Queue

max-failure

Maximum amount of delivery failures

<1-500>

Amount

## **sms-queue max-pending <1-500>**

### Command

```
sms-queue max-pending <1-500>
```

### Parameters

sms-queue

SMS Queue

max-pending

SMS to deliver in parallel

<1-500>

Amount

## **sms-queue trigger**

### Command

```
sms-queue trigger
```

### Parameters

sms-queue

SMS Queue

trigger

Trigger sending messages

**subscriber (msisdn|extension|imsi|tmsi|id) ID expire**

## Command

```
subscriber (msisdn|extension|imsi|tmsi|id) ID expire
```

## Parameters

## subscriber

Operations on a Subscriber

## msisdn

Identify subscriber by MSISDN (phone number)

## extension

Legacy alias for 'msisdn'

## imsi

Identify subscriber by IMSI

## tmsi

Identify subscriber by TMSI

## id

Legacy alias for 'imsi'

## ID

Identifier for the subscriber

## expire

Expire the subscriber Now

**subscriber (msisdn|extension|imsi|tmsi|id) ID ms-test close-loop (a|b|c|d|e|f|i)**

## Command

```
subscriber (msisdn|extension|imsi|tmsi|id) ID ms-test close-loop (a|b|c|d|e|f|i)
```

## Parameters

## subscriber

Operations on a Subscriber

## msisdn

Identify subscriber by MSISDN (phone number)

## extension

Legacy alias for 'msisdn'

## imsi

Identify subscriber by IMSI

## tmsi

Identify subscriber by TMSI

id	Legacy alias for 'imsi'
ID	Identifier for the subscriber
ms-test	Send a TS 04.14 MS Test Command to subscriber
close-loop	Close a TCH Loop inside the MS
a	Loop Type A
b	Loop Type B
c	Loop Type C
d	Loop Type D
e	Loop Type E
f	Loop Type F
i	Loop Type I

### **subscriber (msisdn|extension|imsi|tmsi|id) ID ms-test open-loop**

#### Command

```
subscriber (msisdn|extension|imsi|tmsi|id) ID ms-test open-loop
```

#### Parameters

##### subscriber

Operations on a Subscriber

##### msisdn

Identify subscriber by MSISDN (phone number)

##### extension

Legacy alias for 'msisdn'

##### imsi

Identify subscriber by IMSI

##### tmsi

Identify subscriber by TMSI

id

Legacy alias for 'imsi'

ID

Identifier for the subscriber

ms-test

Send a TS 04.14 MS Test Command to subscriber

open-loop

Open a TCH Loop inside the MS

## **subscriber (msisdn|extension|imsi|tmsi|id) ID paging**

Command

```
subscriber (msisdn|extension|imsi|tmsi|id) ID paging
```

Parameters

subscriber

Operations on a Subscriber

msisdn

Identify subscriber by MSISDN (phone number)

extension

Legacy alias for 'msisdn'

imsi

Identify subscriber by IMSI

tmsi

Identify subscriber by TMSI

id

Legacy alias for 'imsi'

ID

Identifier for the subscriber

paging

Issue an empty Paging for the subscriber (for debugging)

## **subscriber (msisdn|extension|imsi|tmsi|id) ID silent-call start (any|tch/f|tch/h...**

Command

```
subscriber (msisdn|extension|imsi|tmsi|id) ID silent-call start (any|tch/f|tch/h|tch/ ↔  
any|sdccch) (signalling|speech-hr|speech-fr|speech-efr|speech-amr) [IP] [<0-65535>]
```

Parameters

---

subscriber

Operations on a Subscriber

msisdn

Identify subscriber by MSISDN (phone number)

extension

Legacy alias for 'msisdn'

imsi

Identify subscriber by IMSI

tmsi

Identify subscriber by TMSI

id

Legacy alias for 'imsi'

ID

Identifier for the subscriber

silent-call

Silent call operation

start

Start silent call

any

Any channel

tch/f

TCH/F channel

tch/h

TCH/H channel

tch/any

Any TCH channel

sdccch

SDCCH channel

signalling

Signalling only

speech-hr

Speech with HR codec

speech-fr

Speech with FR codec

speech-efr

Speech with EFR codec

speech-amr

Speech with AMR codec

---



[IP]

Target IP for RTP traffic (default 127.0.0.1)

[<0-65535>]

Target port for RTP traffic (default: 4000)

## **subscriber (msisdn|extension|imsi|tmsi|id) ID silent-call stop**

Command

```
subscriber (msisdn|extension|imsi|tmsi|id) ID silent-call stop
```

Parameters

subscriber

Operations on a Subscriber

msisdn

Identify subscriber by MSISDN (phone number)

extension

Legacy alias for 'msisdn'

imsi

Identify subscriber by IMSI

tmsi

Identify subscriber by TMSI

id

Legacy alias for 'imsi'

ID

Identifier for the subscriber

silent-call

Silent call operation

stop

Stop silent call

## **subscriber (msisdn|extension|imsi|tmsi|id) ID silent-sms sender (msisdn|extension...**

Command

```
subscriber (msisdn|extension|imsi|tmsi|id) ID silent-sms sender (msisdn|extension|imsi| ↔  
tmsi|id) SENDER_ID send .LINE
```

Parameters

subscriber

Operations on a Subscriber

msisdn

Identify subscriber by MSISDN (phone number)

extension

Legacy alias for 'msisdn'

imsi

Identify subscriber by IMSI

tmsi

Identify subscriber by TMSI

id

Legacy alias for 'imsi'

ID

Identifier for the subscriber

silent-sms

Silent SMS Operations

sender

Operations on a Subscriber

msisdn

Identify subscriber by MSISDN (phone number)

extension

Legacy alias for 'msisdn'

imsi

Identify subscriber by IMSI

tmsi

Identify subscriber by TMSI

id

Legacy alias for 'imsi'

SENDER\_ID

Identifier for the subscriber

send

Send SMS

.LINE

Actual SMS Text

---

**subscriber (msisdn|extension|imsi|tmsi|id) ID sms delete-all**

## Command

```
subscriber (msisdn|extension|imsi|tmsi|id) ID sms delete-all
```

## Parameters

## subscriber

Operations on a Subscriber

## msisdn

Identify subscriber by MSISDN (phone number)

## extension

Legacy alias for 'msisdn'

## imsi

Identify subscriber by IMSI

## tmsi

Identify subscriber by TMSI

## id

Legacy alias for 'imsi'

## ID

Identifier for the subscriber

## sms

SMS Operations

## delete-all

Delete all SMS to be delivered to this subscriber -- WARNING: the SMS data for all unsent SMS for this subscriber WILL BE LOST.

**subscriber (msisdn|extension|imsi|tmsi|id) ID sms pending-send**

## Command

```
subscriber (msisdn|extension|imsi|tmsi|id) ID sms pending-send
```

## Parameters

## subscriber

Operations on a Subscriber

## msisdn

Identify subscriber by MSISDN (phone number)

## extension

Legacy alias for 'msisdn'

imsi	Identify subscriber by IMSI
tmsi	Identify subscriber by TMSI
id	Legacy alias for 'imsi'
ID	Identifier for the subscriber
sms	SMS Operations
pending-send	Send pending SMS

### **subscriber (msisdn|extension|imsi|tmsi|id) ID sms sender (msisdn|extension|imsi|...**

#### Command

```
subscriber (msisdn|extension|imsi|tmsi|id) ID sms sender (msisdn|extension|imsi|tmsi|id ←  
    ) SENDER_ID send .LINE
```

#### Parameters

**subscriber**  
Operations on a Subscriber

**msisdn**  
Identify subscriber by MSISDN (phone number)

**extension**  
Legacy alias for 'msisdn'

**imsi**  
Identify subscriber by IMSI

**tmsi**  
Identify subscriber by TMSI

**id**  
Legacy alias for 'imsi'

**ID**  
Identifier for the subscriber

**sms**  
SMS Operations

**sender**  
Operations on a Subscriber

msisdn

Identify subscriber by MSISDN (phone number)

extension

Legacy alias for 'msisdn'

imsi

Identify subscriber by IMSI

tmsi

Identify subscriber by TMSI

id

Legacy alias for 'imsi'

SENDER\_ID

Identifier for the subscriber

send

Send SMS

.LINE

Actual SMS Text

## **subscriber (msisdn|extension|imsi|tmsi|id) ID ussd-notify (0|1|2) .TEXT**

Command

```
subscriber (msisdn|extension|imsi|tmsi|id) ID ussd-notify (0|1|2) .TEXT
```

Parameters

subscriber

Operations on a Subscriber

msisdn

Identify subscriber by MSISDN (phone number)

extension

Legacy alias for 'msisdn'

imsi

Identify subscriber by IMSI

tmsi

Identify subscriber by TMSI

id

Legacy alias for 'imsi'

ID

Identifier for the subscriber

ussd-notify

Send a USSD notify to the subscriber

0

Alerting Level 0

1

Alerting Level 1

2

Alerting Level 2

.TEXT

Text of USSD message to send

## **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)

## **terminal monitor**

Command

```
terminal monitor
```

Parameters

terminal

Set terminal line parameters

monitor

Copy debug output to the current terminal line

## 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

## 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

## who

### Command

```
who
```

### Parameters

#### who

Display who is on vty

## 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.

---

## banner motd default

### Command

```
banner motd default
```

### Parameters

#### banner

Set banner string

#### motd

Strings for motd

#### default

Default string

## banner motd file [FILE]

### Command

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

### Parameters

#### banner

Set banner

#### motd

Banner for motd

#### file

Banner from a file

#### [FILE]

Filename

## cs7 instance <0-15>

### Command

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

### Parameters

#### cs7

ITU-T Signaling System 7

#### instance

Configure a SS7 Instance

#### <0-15>

An instance of the SS7 stack

---



## ctrl

### Command

```
ctrl
```

### Parameters

ctrl

Configure the Control Interface

## 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

## 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

---

## hlr

### Command

```
hlr
```

### Parameters

hlr

Configure connection to the HLR

## hostname WORD

### Command

```
hostname WORD
```

### Parameters

hostname

Set system's network name

WORD

This system's network name

## line vty

### Command

```
line vty
```

### Parameters

line

Configure a terminal line

vtty

Virtual terminal

## 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

---

## log file .FILENAME

### Command

```
log file .FILENAME
```

### Parameters

log

Configure logging sub-system

file

Logging to text file

.FILENAME

Filename

## 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)

## log stderr

### Command

```
log stderr
```

### Parameters

log

Configure logging sub-system

stderr

Logging via STDERR of the process

## **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

## **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

## **mncc-int**

Command

```
mncc-int
```

Parameters

mncc-int

Configure internal MNCC handler

## **msc**

Command

```
msc
```

Parameters

msc

Configure MSC options

## **network**

Command

```
network
```

Parameters

network

Configure the GSM network

## **no banner motd**

Command

```
no banner motd
```

Parameters

no

Negate a command or set its defaults

banner

Set banner string

motd

Strings for motd

## 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

## 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

## 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

---

## 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

## 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

## 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

## 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

## 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)

## no stats reporter log

### Command

```
no stats reporter log
```

### Parameters

no

Negate a command or set its defaults

stats

Configure stats sub-system

reporter

Configure a stats reporter

log

Report to the logger



## no stats reporter statsd

### Command

```
no stats reporter statsd
```

### Parameters

no

Negate a command or set its defaults

stats

Configure stats sub-system

reporter

Configure a stats reporter

statsd

Report to a STATSD server

## 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

## password LINE

### Command

```
password LINE
```

### Parameters

password

Assign the terminal connection password

LINE

The UNENCRYPTED (cleartext) line password

## service advanced-vty

### Command

```
service advanced-vty
```

### Parameters

#### service

Set up miscellaneous service

#### advanced-vty

Enable advanced mode vty interface

## 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)

## sgs

### Command

```
sgs
```

### Parameters

#### sgs

Configure the SGs interface

## show history

### Command

```
show history
```

### Parameters

#### show

Show running system information

#### history

Display the session command history

---

## smpp

### Command

```
smpp
```

### Parameters

smpp

Configure SMPP SMS Interface

## stats interval <1-65535>

### Command

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

### Parameters

stats

Configure stats sub-system

interval

Set the reporting interval

<1-65535>

Interval in seconds

## stats reporter log

### Command

```
stats reporter log
```

### Parameters

stats

Configure stats sub-system

reporter

Configure a stats reporter

log

Report to the logger

## stats reporter statsd

### Command

```
stats reporter statsd
```

### Parameters

#### stats

Configure stats sub-system

#### reporter

Configure a stats reporter

#### statsd

Report to a STATSD server

## 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.

## 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

---

## 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

## logging filter imsi IMSI

### Command

```
logging filter imsi IMSI
```

### Parameters

#### logging

Configure logging

#### filter

Filter log messages

#### imsi

Filter log messages by IMSI

#### IMSI

IMSI to be used as filter

---

**logging level (rll|cc|mm|rr|mncc|pag|msc|mgcp|ho|db|ref|ctrl|smpp|ranap|vlr|iucs...**

## Command

```
logging level (rll|cc|mm|rr|mncc|pag|msc|mgcp|ho|db|ref|ctrl|smpp|ranap|vlr|iucs|bssap| ↵  
sgs|ss|lglobal|llapd|linp|lmux|lmi|lmib|lsms|lctrl|lgtp|lstats|lgsup|loap|lss7| ↵  
lsccp|lsua|lm3ua|lmgcp|ljibuf|lrspro) (debug|info|notice|error|fatal)
```

## Parameters

## logging

Configure logging

## level

Set the log level for a specified category

## rll

A-bis Radio Link Layer (RLL)

## cc

Layer3 Call Control (CC)

## mm

Layer3 Mobility Management (MM)

## rr

Layer3 Radio Resource (RR)

## mncc

MNCC API for Call Control application

## pag

Paging Subsystem

## msc

Mobile Switching Center

## mgcp

Media Gateway Control Protocol

## ho

Hand-Over

## db

Database Layer

## ref

Reference Counting

## ctrl

Control interface

## smpp

SMPP interface for external SMS apps

---

ranap  
Radio Access Network Application Part Protocol

vlr  
Visitor Location Register

iucs  
Iu-CS Protocol

bssap  
BSSAP Protocol (A Interface)

sgs  
SGs Interface (SGsAP)

ss  
Supplementary Services

lglobal  
Library-internal global log family

llapd  
LAPD in libosmogsm

linp  
A-bis Input Subsystem

lmux  
A-bis B-Subchannel TRAU Frame Multiplex

lmi  
A-bis Input Driver for Signalling

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

lsms  
Layer3 Short Message Service (SMS)

lctrl  
Control Interface

lgtp  
GPRS GTP library

lstats  
Statistics messages and logging

lgsup  
Generic Subscriber Update Protocol

loap  
Osmocom Authentication Protocol

lss7  
libosmo-sigtran Signalling System 7

---

lsccp	libosmo-sigtran SCCP Implementation
lsua	libosmo-sigtran SCCP User Adaptation
lm3ua	libosmo-sigtran MTP3 User Adaptation
lmgcp	libosmo-mgcp Media Gateway Control Protocol
ljibuf	libosmo-netif Jitter Buffer
lrspro	Remote SIM protocol
debug	Log debug messages and higher levels
info	Log informational messages and higher levels
notice	Log noticeable messages and higher levels
error	Log error messages and higher levels
fatal	Log only fatal messages

### 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

**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

**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

### 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>')

### 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

### 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.

### 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

## 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

## 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>'

## config-stats

### disable

Command

```
disable
```

Parameters

disable

Disable the reporter

### enable

Command

```
enable
```

Parameters

enable

Enable the reporter

### 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

---

## local-ip ADDR

### Command

```
local-ip ADDR
```

### Parameters

local-ip

Set the IP address to which we bind locally

ADDR

IP Address

## mtu <100-65535>

### Command

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

### Parameters

mtu

Set the maximum packet size

<100-65535>

Size in byte

## 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

## no mtu

### Command

```
no mtu
```

### Parameters

no

Negate a command or set its defaults

mtu

Set the maximum packet size

---

## no prefix

### Command

```
no prefix
```

### Parameters

no

Negate a command or set its defaults

prefix

Set the item name prefix

## prefix PREFIX

### Command

```
prefix PREFIX
```

### Parameters

prefix

Set the item name prefix

PREFIX

The prefix string

## remote-ip ADDR

### Command

```
remote-ip ADDR
```

### Parameters

remote-ip

Set the remote IP address to which we connect

ADDR

IP Address

## 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

---

## config-line

### 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

## login

#### Command

```
login
```

#### Parameters

login

Enable password checking

## no login

#### Command

```
no login
```

#### Parameters

no

Negate a command or set its defaults

login

Enable password checking



## config-ctrl

### bind A.B.C.D

#### Command

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

#### Parameters

bind

Set bind address to listen for Control connections

A.B.C.D

Local IP address (default 127.0.0.1)

## config-cs7

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

#### Command

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

#### Parameters

as

Configure an Application Server

NAME

Name of the Application Server

sua

SCCP User Adaptation

m3ua

MTP3 User Adaptation

ipa

IPA Multiplex (SCCP Lite)

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

#### Command

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

#### Parameters

---

asp

Configure Application Server Process

NAME

Name of ASP

<0-65535>

Remote SCTP port number

<0-65535>

Local SCTP port number

sua

SCCP User Adaptation

m3ua

MTP3 User Adaptation

ipa

IPA Multiplex (SCCP Lite)

## description .TEXT

Command

```
description .TEXT
```

Parameters

description

Save human-readable description of the object

.TEXT

Text until the end of the line

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

Command

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

Parameters

network-indicator

Configure the Network Indicator

international

International Network

national

National Network

reserved

Reserved Network

spare

Spare Network

**no as NAME**

## Command

```
no as NAME
```

## Parameters

no

Negate a command or set its defaults

as

Disable Application Server

NAME

Name of AS

**no asp NAME**

## Command

```
no asp NAME
```

## Parameters

no

Negate a command or set its defaults

asp

Disable Application Server Process

NAME

Name of ASP

**no sccp-address NAME**

## Command

```
no sccp-address NAME
```

## Parameters

no

Negate a command or set its defaults

sccp-address

Delete an SCCP addressbook entry

NAME

Name of the SCCP Address

## point-code POINT\_CODE

### Command

```
point-code POINT_CODE
```

### Parameters

point-code

Configure the local Point Code

POINT\_CODE

Point Code

## point-code delimiter (default|dash)

### Command

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

### Parameters

point-code

Point Code

delimiter

Configure Point Code Delimiter

default

Use dot as delimiter

dash

User dash as delimiter

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

### Command

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

### Parameters

point-code

Point Code

format

Configure Point Code Format

<1-24>

Length of first PC component

[<1-23>]

Length of second PC component

[<1-22>]

Length of third PC component

---

## point-code format default

### Command

```
point-code format default
```

### Parameters

#### point-code

Point Code

#### format

Configure Point Code Format

#### default

Default Point Code Format (3.8.3)

## sccp-address NAME

### Command

```
sccp-address NAME
```

### Parameters

#### sccp-address

Create/Modify an SCCP addressbook entry

#### NAME

Name of the SCCP Address

## sccp-timer (conn\_est|ias|iar|rel|repeat\_rel|int|guard|reset|reassembly) <1-99999...

### Command

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

### Parameters

#### sccp-timer

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

#### conn\_est

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

#### ias

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

#### iar

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

---

**rel**

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

**repeat\_rel**

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

**int**

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

**guard**

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

**reset**

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

**reassembly**

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

**<1-999999>**

Timer value, in seconds

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

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

**Parameters****xua**

SIGTRAN xxxUA related

**rkm**

Routing Key Management

**routing-key-allocation**

Routing Key Management Allocation Policy

**static-only**

Only static (pre-configured) Routing Keys permitted

**dynamic-permitted**

Dynamically allocate Routing Keys for what ASPs request

---

## config-cs7-as

### asp NAME

Command

```
asp NAME
```

Parameters

asp

Specify that a given ASP is part of this AS

NAME

Name of ASP to be added to AS

### description .TEXT

Command

```
description .TEXT
```

Parameters

description

Save human-readable description of the object

.TEXT

Text until the end of the line

### no asp NAME

Command

```
no asp NAME
```

Parameters

no

Negate a command or set its defaults

asp

Specify ASP to be removed from this AS

NAME

Name of ASP to be removed

---

## point-code override dpc PC

### Command

```
point-code override dpc PC
```

### Parameters

#### point-code

Point Code Specific Features

#### override

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

#### dpc

Override Source Point Code

#### PC

Override Destination Point Code

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

### Command

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

### Parameters

#### point-code

Point Code Specific Features

#### override

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

#### patch-sccp

Patch point code values into SCCP called/calling address

#### disabled

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

#### both

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

## qos-class <0-255>

### Command

```
qos-class <0-255>
```

### Parameters

#### qos-class

Specity QoS Class of AS

#### <0-255>

QoS Class of AS



## recovery-timeout <1-2000>

### Command

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

### Parameters

#### recovery-timeout

Specifies the recovery timeout value in milliseconds

#### <1-2000>

Recovery Timeout in Milliseconds

## routing-key RCONTEXT DPC

### Command

```
routing-key RCONTEXT DPC
```

### Parameters

#### routing-key

Define a routing key

#### RCONTEXT

Routing context number

#### DPC

Destination Point Code

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

### Command

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

### Parameters

#### routing-key

Define a routing key

#### RCONTEXT

Routing context number

#### DPC

Destination Point Code

#### si

Match on Service Indicator

---

aal2

ATM Adaption Layer 2

bicc

Bearer Independent Call Control

b-isup

Broadband ISDN User Part

h248

H.248

isup

ISDN User Part

sat-isup

Sattelite ISDN User Part

sccp

Signalling Connection Control Part

tup

Telephony User Part

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

### Command

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

### Parameters

#### routing-key

Define a routing key

#### RCONTEXT

Routing context number

#### DPC

Destination Point Code

#### si

Match on Service Indicator

#### aal2

ATM Adaption Layer 2

#### bicc

Bearer Independent Call Control

#### b-isup

Broadband ISDN User Part

#### h248

H.248

isup

ISDN User Part

sat-isup

Sattelite ISDN User Part

sccp

Signalling Connection Control Part

tup

Telephony User Part

ssn

Match on Sub-System Number

SSN

Sub-System Number to match on

## routing-key RCONTEXT DPC ssn SSN

Command

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

Parameters

routing-key

Define a routing key

RCONTEXT

Routing context number

DPC

Destination Point Code

ssn

Match on Sub-System Number

SSN

Sub-System Number to match on

## traffic-mode (broadcast | loadshare | roundrobin | override)

Command

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

Parameters

traffic-mode

Specifies traffic mode of operation of the ASP within the AS

broadcast

Broadcast to all ASP within AS

loadshare

Share Load among all ASP within AS

roundrobin

Round-Robin between all ASP within AS

override

Override

## config-cs7-asp

### block

Command

```
block
```

Parameters

block

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

### description .TEXT

Command

```
description .TEXT
```

Parameters

description

Save human-readable description of the object

.TEXT

Text until the end of the line

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

Command

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

Parameters

local-ip

Specify Local IP Address from which to contact ASP

A.B.C.D

Local IP Address from which to contact of ASP

---

**qos-class <0-255>**

## Command

```
qos-class <0-255>
```

## Parameters

## qos-class

Specify QoS Class of ASP

## &lt;0-255&gt;

QoS Class of ASP

**remote-ip A.B.C.D**

## Command

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

## Parameters

## remote-ip

Specify Remote IP Address of ASP

## A.B.C.D

Remote IP Address of ASP

**role (sg|asp|ipsp)**

## Command

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

## Parameters

## role

Specify the xUA role for this ASP

## sg

SG (Signaling Gateway)

## asp

ASP (Application Server Process)

## ipsp

IPSP (IP Signalling Point)

## sctp-role (client|server)

### Command

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

### Parameters

#### sctp-role

Specify the SCTP role for this ASP

#### client

Operate as SCTP client; connect to a server

#### server

Operate as SCTP server; wait for client connections

## shutdown

### Command

```
shutdown
```

### Parameters

#### shutdown

Terminates SCTP association; New associations will be rejected

## config-cs7-sccpaddr

## global-title

### Command

```
global-title
```

### Parameters

#### global-title

Add/Modify Global Title

## no global-title

### Command

```
no global-title
```

### Parameters

#### no

Negate a command or set its defaults

#### global-title

Remove Global Title

---

## no point-code

### Command

```
no point-code
```

### Parameters

no

Negate a command or set its defaults

point-code

Remove point-code Number

## no subsystem-number

### Command

```
no subsystem-number
```

### Parameters

no

Negate a command or set its defaults

subsystem-number

Remove Subsystem Number

## point-code POINT\_CODE

### Command

```
point-code POINT_CODE
```

### Parameters

point-code

Add point-code Number

POINT\_CODE

PC

---

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

### Command

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

### Parameters

routing-indicator

Add Routing Indicator

GT

by global-title

PC

by point-code

IP

by ip-address

## subsystem-number <0-4294967295>

### Command

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

### Parameters

subsystem-number

Add Subsystem Number

<0-4294967295>

SSN

## config-cs7-sccpaddr-gt

### digits DIGITS

### Command

```
digits DIGITS
```

### Parameters

digits

Set Global Title Digits

DIGITS

Number digits



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

## Command

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

## Parameters

global-title-indicator

Set Global Title Indicator

<0-15>

GTI

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

## Command

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

## Parameters

nature-of-address-indicator

Set Global Title Nature of Address Indicator

<0-127>

NAI

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

## Command

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

## Parameters

numbering-plan-indicator

Set Global Title Numbering Plan Indicator

<0-15>

NPI

**translation-type <0-255>**

## Command

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

## Parameters

translation-type

Set Global Title Translation Type

<0-255>

TT

---

## config-net

### authentication (optional|required)

Command

```
authentication (optional|required)
```

Parameters

authentication

Whether to enforce MS authentication in 2G

optional

Allow MS to attach via 2G BSC without authentication

required

Always do authentication

### call-waiting

Command

```
call-waiting
```

Parameters

call-waiting

Enable Call Waiting on the Network

### encryption a5 <0-3> [<0-3>] [<0-3>] [<0-3>]

Command

```
encryption a5 <0-3> [<0-3>] [<0-3>] [<0-3>]
```

Parameters

encryption

Encryption options

a5

GSM A5 Air Interface Encryption.

<0-3>

A5/n Algorithm Number

[<0-3>]

A5/n Algorithm Number

[<0-3>]

A5/n Algorithm Number

[<0-3>]

A5/n Algorithm Number

## encryption uea <0-2> [<0-2>] [<0-2>]

### Command

```
encryption uea <0-2> [<0-2>] [<0-2>]
```

### Parameters

#### encryption

Encryption options

#### uea

UTRAN (3G) encryption algorithms to allow: 0 = UEA0 (no encryption), 1 = UEA1, 2 = UEA2. NOTE: the current implementation does not allow free choice of combining encryption algorithms yet. The only valid settings are either 'encryption uea 0' or 'encryption uea 1 2'.

#### <0-2>

UEAn Algorithm Number

#### [<0-2>]

UEAn Algorithm Number

#### [<0-2>]

UEAn Algorithm Number

## long name NAME

### Command

```
long name NAME
```

### Parameters

#### long

Set the long GSM network name

#### name

Name Commands

#### NAME

Name to use

## mm info (0|1)

### Command

```
mm info (0|1)
```

### Parameters

---

mm

Mobility Management

info

Send MM INFO after LOC UPD ACCEPT

0

Disable

1

Enable

## mobile network code <0-999>

Command

```
mobile network code <0-999>
```

Parameters

mobile

Set the GSM mobile network code

network

Network Commands

code

Code commands

<0-999>

Mobile Network Code to use

## network country code <1-999>

Command

```
network country code <1-999>
```

Parameters

network

Set the GSM network country code

country

Country commands

code

Code commands

<1-999>

Network Country Code to use

## no call-waiting

### Command

```
no call-waiting
```

### Parameters

no

Negate a command or set its defaults

call-waiting

Disable Call Waiting on the Network

## no timezone

### Command

```
no timezone
```

### Parameters

no

Negate a command or set its defaults

timezone

Disable network timezone override, use system tz

## rrlp mode (none|ms-based|ms-preferred|ass-preferred)

### Command

```
rrlp mode (none|ms-based|ms-preferred|ass-preferred)
```

### Parameters

rrlp

Radio Resource Location Protocol

mode

Set the Radio Resource Location Protocol Mode

none

Don't send RRLP request

ms-based

Request MS-based location

ms-preferred

Request any location, prefer MS-based

ass-preferred

Request any location, prefer MS-assisted

---

**short name NAME**

## Command

```
short name NAME
```

## Parameters

## short

Set the short GSM network name

## name

Name Commands

## NAME

Name to use

**timezone <-19-19> (0|15|30|45)**

## Command

```
timezone <-19-19> (0|15|30|45)
```

## Parameters

## timezone

Set the Timezone Offset of the network

## &lt;-19-19&gt;

Timezone offset (hours)

## 0

Timezone offset (00 minutes)

## 15

Timezone offset (15 minutes)

## 30

Timezone offset (30 minutes)

## 45

Timezone offset (45 minutes)

**timezone <-19-19> (0|15|30|45) <0-2>**

## Command

```
timezone <-19-19> (0|15|30|45) <0-2>
```

## Parameters

## timezone

Set the Timezone Offset of the network

<-19-19>

Timezone offset (hours)

0

Timezone offset (00 minutes)

15

Timezone offset (15 minutes)

30

Timezone offset (30 minutes)

45

Timezone offset (45 minutes)

<0-2>

DST offset (hours)

## config-msc

### asn1 debug (1|0)

#### Command

```
asn1 debug (1|0)
```

#### Parameters

asn1

ASN.1 settings

debug

Enable ASN.1 debug messages

1

Log ASN.1 debug messages to stderr

0

Do not log ASN.1 debug messages to stderr

### asn1 xer-print (1|0)

#### Command

```
asn1 xer-print (1|0)
```

#### Parameters

---

asn1

ASN.1 settings

xer-print

Log human readable representations of all ASN.1 messages to stderr

1

Log XML representation of all ASN.1 messages to stderr

0

Do not log decoded ASN.1 messages to stderr

## assign-tmsi

Command

```
assign-tmsi
```

Parameters

assign-tmsi

Assign TMSI during Location Updating.

## auth-tuple-max-reuse-count <-1-2147483647>

Command

```
auth-tuple-max-reuse-count <-1-2147483647>
```

Parameters

auth-tuple-max-reuse-count

Configure authentication tuple re-use

<-1-2147483647>

0 to use each auth tuple at most once (default), >0 to limit re-use, -1 to re-use infinitely (vulnerable!).

## auth-tuple-reuse-on-error (0|1)

Command

```
auth-tuple-reuse-on-error (0|1)
```

Parameters

auth-tuple-reuse-on-error

Configure authentication tuple re-use when HLR is not responsive

0

Never re-use auth tuples beyond auth-tuple-max-reuse-count (default)

1

If the HLR does not deliver new tuples, do re-use already available old ones.

---



## check-imei-rqd (0|1|early)

### Command

```
check-imei-rqd (0|1|early)
```

### Parameters

#### check-imei-rqd

Send each IMEI to the EIR to ask if it is permitted or not. The EIR is implemented as part of OsmoHLR, and can optionally save the IMEI in the HLR.

0

Do not send IMEIs to the EIR

1

Send each IMEI to the EIR

early

Send each IMEI to the EIR, and do it at the start of the location update. This allows the EIR to receive the IMEI, even if the MS would get rejected when the MSC sends the location update request to the HLR.

## cs7-instance-a <0-15>

### Command

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

### Parameters

#### cs7-instance-a

Set SS7 to be used by the A-Interface.

<0-15>

SS7 instance reference number

## cs7-instance-iu <0-15>

### Command

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

### Parameters

#### cs7-instance-iu

Set SS7 to be used by the Iu-Interface.

<0-15>

SS7 instance reference number

## emergency-call route-to-msisdn MSISDN

### Command

```
emergency-call route-to-msisdn MSISDN
```

### Parameters

#### emergency-call

Configure Emergency Call Behaviour

#### route-to-msisdn

MSISDN to which Emergency Calls are Dispatched

#### MSISDN

MSISDN (E.164 Phone Number)

## handover-number range MSISDN\_FIRST MSISDN\_LAST

### Command

```
handover-number range MSISDN_FIRST MSISDN_LAST
```

### Parameters

#### handover-number

Configure a range of MSISDN to be assigned to incoming inter-MSC Handovers for call forwarding.

#### range

Configure a handover number range

#### MSISDN\_FIRST

First Handover Number MSISDN

#### MSISDN\_LAST

Last Handover Number MSISDN

## iu rab-assign-addr-enc (x213|v4raw)

### Command

```
iu rab-assign-addr-enc (x213|v4raw)
```

### Parameters

#### iu

Iu interface protocol options

#### rab-assign-addr-enc

Choose RAB Assignment's Transport Layer Address encoding

#### x213

ITU-T X.213 compliant address encoding (default)

#### v4raw

32bit length raw IPv4 address (for ip.access nano3G)

## mgw endpoint-domain NAME

### Command

```
mgw endpoint-domain NAME
```

### Parameters

#### mgw

Configure MGCP connection to Media Gateway

#### endpoint-domain

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

#### NAME

Domain name, should be alphanumeric.

## mgw local-ip A.B.C.D

### Command

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

### Parameters

#### mgw

Configure MGCP connection to Media Gateway

#### local-ip

local bind to connect to MGW from

#### A.B.C.D

local bind IP address

## mgw local-port <0-65535>

### Command

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

### Parameters

#### mgw

Configure MGCP connection to Media Gateway

#### local-port

local port to connect to MGW from

#### <0-65535>

local bind port

---

## mgw remote-ip A.B.C.D

### Command

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

### Parameters

mgw

Configure MGCP connection to Media Gateway

remote-ip

remote IP address to reach the MGW at

A.B.C.D

remote IP address

## mgw remote-port <0-65535>

### Command

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

### Parameters

mgw

Configure MGCP connection to Media Gateway

remote-port

remote port to reach the MGW at

<0-65535>

remote port

## mncc external MNCC\_SOCKET\_PATH

### Command

```
mncc external MNCC_SOCKET_PATH
```

### Parameters

mncc

Configure Mobile Network Call Control

external

Use external MNCC handler (changes need a program restart)

MNCC\_SOCKET\_PATH

File system path to create the MNCC unix domain socket at

---

## **mncc guard-timeout <0-255>**

### Command

```
mncc guard-timeout <0-255>
```

### Parameters

#### mncc

Configure Mobile Network Call Control

#### guard-timeout

Set global guard timer for mncc interface activity

#### <0-255>

guard timer value (sec.)

## **mncc internal**

### Command

```
mncc internal
```

### Parameters

#### mncc

Configure Mobile Network Call Control

#### internal

Use internal MNCC handler (default; changes need a program restart)

## **ncss guard-timeout <0-255>**

### Command

```
ncss guard-timeout <0-255>
```

### Parameters

#### ncss

Configure call independent Supplementary Services

#### guard-timeout

Set guard timer for session activity

#### <0-255>

guard timer value (sec.), or 0 to disable

---

**neighbor (a|iu) cgi <0-999> <0-999> <0-65535> <0-65535> (ran-pc|msc-ipa-name) RA...**

## Command

```
neighbor (a|iu) cgi <0-999> <0-999> <0-65535> <0-65535> (ran-pc|msc-ipa-name) ↔  
RAN_PC_OR_MSC_IPA_NAME
```

## Parameters

## neighbor

Add Handover target configuration

## a

Neighbor on GERAN-A

## iu

Neighbor on UTRAN-Iu

## cgi

Handover target cell by Cell-Global Identifier (MCC, MNC, LAC, CI)

## &lt;0-999&gt;

MCC

## &lt;0-999&gt;

MNC

## &lt;0-65535&gt;

LAC

## &lt;0-65535&gt;

CI

## ran-pc

SCCP point code of RAN peer

## msc-ipa-name

GSUP IPA name of target MSC

## RAN\_PC\_OR\_MSC\_IPA\_NAME

Point code or MSC IPA name value

**neighbor (a|iu) lac <0-65535> (ran-pc|msc-ipa-name) RAN\_PC\_OR\_MSC\_IPA\_NAME**

## Command

```
neighbor (a|iu) lac <0-65535> (ran-pc|msc-ipa-name) RAN_PC_OR_MSC_IPA_NAME
```

## Parameters

## neighbor

Add Handover target configuration

a  
Neighbor on GERAN-A

iu  
Neighbor on UTRAN-Iu

lac  
Handover target cell by LAC

<0-65535>  
LAC

ran-pc  
SCCP point code of RAN peer

msc-ipa-name  
GSUP IPA name of target MSC

RAN\_PC\_OR\_MSC\_IPA\_NAME  
Point code or MSC IPA name value

**neighbor (a|iu) lac-ci <0-65535> <0-65535> (ran-pc|msc-ipa-name) RAN\_PC\_OR\_MSC\_I...**

#### Command

```
neighbor (a|iu) lac-ci <0-65535> <0-65535> (ran-pc|msc-ipa-name) RAN_PC_OR_MSC_IPA_NAME
```

#### Parameters

neighbor  
Add Handover target configuration

a  
Neighbor on GERAN-A

iu  
Neighbor on UTRAN-Iu

lac-ci  
Handover target cell by LAC and CI

<0-65535>  
LAC

<0-65535>  
CI

ran-pc  
SCCP point code of RAN peer

msc-ipa-name  
GSUP IPA name of target MSC

RAN\_PC\_OR\_MSC\_IPA\_NAME  
Point code or MSC IPA name value

## no assign-tmsi

### Command

```
no assign-tmsi
```

### Parameters

no

Negate a command or set its defaults

assign-tmsi

Assign TMSI during Location Updating.

## no neighbor (a|iu) (ran-pc|msc-ipa-name) RAN\_PC\_OR\_MSC\_IPA\_NAME

### Command

```
no neighbor (a|iu) (ran-pc|msc-ipa-name) RAN_PC_OR_MSC_IPA_NAME
```

### Parameters

no

Negate a command or set its defaults

neighbor

Remove Handover target

a

Neighbor on GERAN-A

iu

Neighbor on UTRAN-Iu

ran-pc

SCCP point code of RAN peer

msc-ipa-name

GSUP IPA name of target MSC

RAN\_PC\_OR\_MSC\_IPA\_NAME

Point code or MSC IPA name value

## no sms-over-gsup

### Command

```
no sms-over-gsup
```

### Parameters

no

Negate a command or set its defaults

sms-over-gsup

Disable routing of SMS messages over GSUP



## osmux (on|off|only)

### Command

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

### Parameters

osmux

RTP multiplexing

on

Enable OSMUX

off

Disable OSMUX

only

Only use OSMUX

## paging response-timer (default|<1-65535>)

### Command

```
paging response-timer (default|<1-65535>)
```

### Parameters

paging

Configure Paging

response-timer

Set Paging timeout, the minimum time to pass between (unsuccessful) Pagings sent towards BSS or RNC

default

Set to default timeout (10 seconds)

<1-65535>

Set paging timeout in seconds

## sms-over-gsup

### Command

```
sms-over-gsup
```

### Parameters

sms-over-gsup

Enable routing of SMS messages over GSUP

---

**timer [(vlr|mgw|mncc|sccp|geran|utran|sgs)] [TNNNN] [<0-2147483647>|default]**

## Command

```
timer [ (vlr|mgw|mncc|sccp|geran|utran|sgs) ] [TNNNN] [ (<0-2147483647>|default) ]
```

## Parameters

## timer

Configure or show timers

## [vlr]

VLR (Visitors Location Register)

## [mgw]

MGW (Media Gateway) interface

## [mncc]

MNCC (Mobile Network Call Control) interface

## [sccp]

SCCP (Signalling Connection Control Part)

## [geran]

GERAN (GSM EDGE Radio Access Network)

## [utran]

UTRAN (UMTS Terrestrial Radio Access Network)

## [sgs]

SGs interface towards MME

## [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'.

## [&lt;0-2147483647&gt;]

New timer value

## [default]

Set to default timer value

**config-mncc-int**

This node allows to configure the default codecs for the internal call control handling.

## default-codec tch-f (fr|efr|amr)

### Command

```
default-codec tch-f (fr|efr|amr)
```

### Parameters

#### default-codec

Set default codec

#### tch-f

Codec for TCH/F

#### fr

Full-Rate

#### efr

Enhanced Full-Rate

#### amr

Adaptive Multi-Rate

## default-codec tch-h (hr|amr)

### Command

```
default-codec tch-h (hr|amr)
```

### Parameters

#### default-codec

Set default codec

#### tch-h

Codec for TCH/H

#### hr

Half-Rate

#### amr

Adaptive Multi-Rate

## config-smpp

This node allows to configure the SMPP interface for interfacing with external SMS applications. This section contains generic/common SMPP related configuration, and no per-ESME specific parameters.

## esme NAME

### Command

```
esme NAME
```

### Parameters

esme

Configure a particular ESME

NAME

Alphanumeric System ID of the ESME to be configured

## local-tcp-ip A.B.C.D <1-65535>

### Command

```
local-tcp-ip A.B.C.D <1-65535>
```

### Parameters

local-tcp-ip

Set the local IP address and TCP port on which we listen for SMPP

A.B.C.D

Local IP address

<1-65535>

TCP port number

## local-tcp-port <1-65535>

### Command

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

### Parameters

local-tcp-port

Set the local TCP port on which we listen for SMPP

<1-65535>

TCP port number

## no esme NAME

### Command

```
no esme NAME
```

### Parameters

no

Negate a command or set its defaults

esme

Remove ESME configuration

NAME

Alphanumeric System ID of the ESME to be removed

## no smpp-first

### Command

```
no smpp-first
```

### Parameters

no

Negate a command or set its defaults

smpp-first

Try SMPP before routes before the subscriber DB

## policy (accept-all|closed)

### Command

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

### Parameters

policy

Set the authentication policy of this SMSC

accept-all

Accept all SMPP connections independent of system ID / password

closed

Accept only SMPP connections from ESMEs explicitly configured

## smpp-first

### Command

```
smpp-first
```

### Parameters

#### smpp-first

Try SMPP routes before the subscriber DB

## system-id ID

### Command

```
system-id ID
```

### Parameters

#### system-id

Set the System ID of this SMSC

#### ID

Alphanumeric SMSC System ID

## config-smpp-esme

This node allows to configure one particular SMPP ESME, which is an External SMS Entity such as a SMS based application server. You can define any number of ESME within the SMPP node of the OsmoNITB VTY.

## alert-notifications

### Command

```
alert-notifications
```

### Parameters

#### alert-notifications

Disable sending of SMPP Alert Notifications for this ESME

## dcs-transparent

### Command

```
dcs-transparent
```

### Parameters

#### dcs-transparent

Enable the transparent pass-through of TP-DCS to SMPP DataCoding

---

## default-route

### Command

```
default-route
```

### Parameters

default-route

Set this ESME as default-route for all SMS to unknown destinations

## deliver-src-imsi

### Command

```
deliver-src-imsi
```

### Parameters

deliver-src-imsi

Enable the use of IMSI as source address in DELIVER

## no alert-notifications

### Command

```
no alert-notifications
```

### Parameters

no

Negate a command or set its defaults

alert-notifications

Disable sending of SMPP Alert Notifications for this ESME

## no dcs-transparent

### Command

```
no dcs-transparent
```

### Parameters

no

Negate a command or set its defaults

dcs-transparent

Disable the transparent pass-through of TP-DCS to SMPP DataCoding

---

## no default-route

### Command

```
no default-route
```

### Parameters

no

Negate a command or set its defaults

default-route

Remove this ESME as default-route for all SMS to unknown destinations

## no deliver-src-imsi

### Command

```
no deliver-src-imsi
```

### Parameters

no

Negate a command or set its defaults

deliver-src-imsi

Disable the use of IMSI as source address in DELIVER

## no osmocom-extensions

### Command

```
no osmocom-extensions
```

### Parameters

no

Negate a command or set its defaults

osmocom-extensions

Disable the use of Osmocom SMPP Extensions for this ESME

## no password

### Command

```
no password
```

### Parameters

no

Negate a command or set its defaults

password

Remove the password for this ESME

---



**no route prefix (unknown|international|national|network|subscriber|alpha|abbrev)...**

## Command

```
no route prefix (unknown|international|national|network|subscriber|alpha|abbrev) ( ←  
unknown|isdn|x121|f69|e212|national|private|ermes|ip|wap) PREFIX
```

## Parameters

no

Negate a command or set its defaults

route

Configure a route for MO-SMS to be sent to this ESME

prefix

Prefix-match route

unknown

Unknown type-of-number

international

International type-of-number

national

National type-of-number

network

Network specific type-of-number

subscriber

Subscriber type-of-number

alpha

Alphanumeric type-of-number

abbrev

Abbreviated type-of-number

unknown

Unknown numbering plan

isdn

ISDN (E.164) numbering plan

x121

X.121 numbering plan

f69

F.69 numbering plan

e212

E.212 numbering plan

national

National numbering plan

private

Private numbering plan

ermes

ERMES numbering plan

ip

IP numbering plan

wap

WAP numbeing plan

PREFIX

Destination number prefix

## osmocom-extensions

Command

```
osmocom-extensions
```

Parameters

osmocom-extensions

Enable the use of Osmocom SMPP Extensions for this ESME

## password PASSWORD

Command

```
password PASSWORD
```

Parameters

password

Set the password for this ESME

PASSWORD

Alphanumeric password string

## route prefix (unknown|international|national|network|subscriber|alpha|abbrev) (u...

Command

```
route prefix (unknown|international|national|network|subscriber|alpha|abbrev) (unknown| ↔  
isdn|x121|f69|e212|national|private|ermes|ip|wap) PREFIX
```

Parameters

route

Configure a route for MO-SMS to be sent to this ESME

prefix

Prefix-match route

unknown

Unknown type-of-number

international

International type-of-number

national

National type-of-number

network

Network specific type-of-number

subscriber

Subscriber type-of-number

alpha

Alphanumeric type-of-number

abbrev

Abbreviated type-of-number

unknown

Unknown numbering plan

isdn

ISDN (E.164) numbering plan

x121

X.121 numbering plan

f69

F.69 numbering plan

e212

E.212 numbering plan

national

National numbering plan

private

Private numbering plan

ermes

ERMES numbering plan

ip

IP numbering plan

wap

WAP numbeing plan

**PREFIX**

Destination number prefix

---

## config-hlr

### ipa-name NAME

#### Command

```
ipa-name NAME
```

#### Parameters

##### ipa-name

Set the IPA name of this MSC

##### NAME

A unique name for this MSC. For example: PLMN + redundancy server number: MSC-901-70-0. This name is used for GSUP routing and must be set if more than one MSC is connected to the HLR. The default is 'MSC-00-00-00-00-00-00'.

### remote-ip A.B.C.D

#### Command

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

#### Parameters

##### remote-ip

Remote GSUP address of the HLR

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

Remote GSUP address (default: 127.0.0.1)

### remote-port <1-65535>

#### Command

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

#### Parameters

##### remote-port

Remote GSUP port of the HLR

##### <1-65535>

Remote GSUP port (default: MSC\_HLR\_REMOTE\_PORT\_DEFAULT)

---

## config-sgs

### counter (ns7|ns11) <0-255>

#### Command

```
counter (ns7|ns11) <0-255>
```

#### Parameters

##### counter

Configure SGs Counter

##### ns7

Non-EPS alert request retry counter

##### ns11

VLR reset retry counter

##### <0-255>

Counter value

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

#### Command

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

#### Parameters

##### local-ip

Set the Local IP Address of the SGs interface

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

Local IP Address of the SGs interface

### local-port <0-65535>

#### Command

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

#### Parameters

##### local-port

Set the local SCTP port of the SGs interface

##### <0-65535>

Local SCTP port of the SGs interface

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**timer (ts5|ts6-2|ts7|ts11|ts14|ts15) <1-120>**

## Command

```
timer (ts5|ts6-2|ts7|ts11|ts14|ts15) <1-120>
```

## Parameters

## timer

Configure SGs Timer

## ts5

Paging procedure guard timer

## ts6-2

TMSI reallocation guard timer

## ts7

Non-EPS alert procedure guard timer

## ts11

VLR reset guard timer

## ts14

UE fallback prcoedure timer

## ts15

MO UE fallback procedure guard timer

## &lt;1-120&gt;

Time in seconds

**vlr-name FQDN**

## Command

```
vlr-name FQDN
```

## Parameters

## vlr-name

Set the SGs VLR Name as per TS 29.118 9.4.22

## FQDN

Fully-Qualified Domain Name of this VLR