

# **OsmoMSC VTY Reference**

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**COLLABORATORS**

	<i>TITLE :</i> OsmoMSC VTY Reference		
<i>ACTION</i>	<i>NAME</i>	<i>DATE</i>	<i>SIGNATURE</i>
WRITTEN BY		October 29, 2020	

**REVISION HISTORY**

NUMBER	DATE	DESCRIPTION	NAME
v1	18th September 2017	Initial	nh

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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 [with-flags]

### Command

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

### Parameters

list

Print command list

[with-flags]

Also print the VTY attribute flags

---

## show running-config

### Command

```
show running-config
```

### Parameters

show

Show running system information

running-config

running configuration

## show vty-attributes

### Command

```
show vty-attributes
```

### Parameters

show

Show running system information

vty-attributes

List of VTY attributes

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

### Command

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

### Parameters

show

Show running system information

vty-attributes

List of VTY attributes

application

Application specific attributes only

library

Library specific attributes only

global

Global attributes only

---

## 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 [expert-mode]

#### Command

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

#### Parameters

##### enable

Turn on privileged mode command

##### [expert-mode]

Enable the expert mode (show hidden commands)

### 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|lms) (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

lns

GPRS NS layer

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|lns) (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

lns  
GPRS NS layer

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 cpu-sched threads

### Command

```
show cpu-sched threads
```

### Parameters

#### show

Show running system information

#### cpu-sched

Show Sched section information

#### threads

Show information about running threads)

---

**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)

[&lt;0-65534&gt;]

Port Number

**show cs7 config**

## Command

```
show cs7 config
```

## Parameters

show

Show running system information

cs7

ITU-T Signaling System 7

config

Currently running cs7 configuration

**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 nri**

## Command

```
show nri
```

## Parameters

## show

Show running system information

## nri

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

**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 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|tch/...**

## 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|extensio...**

## 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|lms) (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

lns

GPRS NS layer

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|lns) (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

lscpp  
libosmo-sigtran SCCP Implementation

lsua  
libosmo-sigtran SCCP User Adaptation

lm3ua  
libosmo-sigtran MTP3 User Adaptation

lmgcp  
libosmo-mgcp Media Gateway Control Protocol

ljibuf  
libosmo-netif Jitter Buffer

lrspro  
Remote SIM protocol

lms  
GPRS NS layer

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 cpu-sched threads

### Command

```
show cpu-sched threads
```

### Parameters

#### show

Show running system information

#### cpu-sched

Show Sched section information

#### threads

Show information about running threads)

---

**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)

## [&lt;0-65534&gt;]

Port Number

**show cs7 config**

## Command

```
show cs7 config
```

## Parameters

## show

Show running system information

## cs7

ITU-T Signaling System 7

## config

Currently running cs7 configuration

**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 nri**

## Command

```
show nri
```

## Parameters

## show

Show running system information

## nri

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

**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 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

## stats report

### Command

```
stats report
```

### Parameters

stats

Stats related commands

report

Manurally trigger reporting of stats

## stats reset

### Command

```
stats reset
```

### Parameters

stats

Stats related commands

reset

Reset all stats

## 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|sdcch) (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

## cpu-sched

### Command

```
cpu-sched
```

### Parameters

#### cpu-sched

Configure CPU Scheduler related settings

---

## cs7 instance <0-15>

### Command

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

### Global attributes

#### Flag: !

This command applies immediately

### Parameters

#### cs7

ITU-T Signaling System 7

#### instance

Configure a SS7 Instance

#### <0-15>

An instance of the SS7 stack

## 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

## log systemd-journal [raw]

### Command

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

### Parameters

log

Configure logging sub-system

systemd-journal

Logging to systemd-journal

[raw]

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

## 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 log systemd-journal

### Command

```
no log systemd-journal
```

### Parameters

no

Negate a command or set its defaults

log

Configure logging sub-system

systemd-journal

Logging to systemd-journal

---

## 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

---

## stats interval <0-65535>

### Command

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

### Parameters

stats

Configure stats sub-system

interval

Set the reporting interval

<0-65535>

Interval in seconds (0 disables the reporting interval)

## 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|lms) (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

lns  
GPRS NS layer

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

### flush-period <0-65535>

Command

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

Parameters

flush-period

Configure stats sub-system

<0-65535>

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

---

## 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)
```

#### Global attributes

Flag: !

This command applies immediately

#### Parameters

as

Configure an Application Server

NAME

Name of the Application Server

sua

SCCP User Adaptation

m3ua

MTP3 User Adaptation

ipa

IPA Multiplex (SCCP Lite)

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

#### Command

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

#### Global attributes

Flag: @

This command applies on VTY node exit

#### Parameters

asp

Configure Application Server Process

NAME

Name of ASP

<0-65535>

Remote 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)
```

Global attributes

Flag: !

This command applies immediately

Parameters

network-indicator

Configure the Network Indicator

international

International Network

national

National Network

reserved

Reserved Network

spare

Spare Network

## no as NAME

### Command

```
no as NAME
```

### Global attributes

Flag: !

This command applies immediately

### Parameters

no

Negate a command or set its defaults

as

Disable Application Server

NAME

Name of AS

## no asp NAME

### Command

```
no asp NAME
```

### Global attributes

Flag: !

This command applies immediately

### Parameters

no

Negate a command or set its defaults

asp

Disable Application Server Process

NAME

Name of ASP

## **no sccp-address NAME**

### Command

```
no sccp-address NAME
```

### Global attributes

Flag: !

This command applies immediately

### Parameters

no

Negate a command or set its defaults

sccp-address

Delete an SCCP addressbook entry

NAME

Name of the SCCP Address

## **point-code POINT\_CODE**

### Command

```
point-code POINT_CODE
```

### Global attributes

Flag: !

This command applies immediately

### Parameters

point-code

Configure the local Point Code

POINT\_CODE

Point Code

## **point-code delimiter (default|dash)**

### Command

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

### Global attributes

---

Flag: !

This command applies immediately

Parameters

point-code

Point Code

delimiter

Configure Point Code Delimiter

default

Use dot as delimiter

dash

User dash as delimiter

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

Command

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

Global attributes

Flag: !

This command applies immediately

Parameters

point-code

Point Code

format

Configure Point Code Format

<1-24>

Length of first PC component

[<1-23>]

Length of second PC component

[<1-22>]

Length of third PC component

## point-code format default

### Command

```
point-code format default
```

### Global attributes

#### Flag: !

This command applies immediately

### Parameters

#### point-code

Point Code

#### format

Configure Point Code Format

#### default

Default Point Code Format (3.8.3)

## sccp-address NAME

### Command

```
sccp-address NAME
```

### Global attributes

#### Flag: !

This command applies immediately

### Parameters

#### sccp-address

Create/Modify an SCCP addressbook entry

#### NAME

Name of the SCCP Address

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

### Command

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

### Global attributes

---

Flag: !

This command applies immediately

#### Parameters

##### sccp-timer

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

##### conn\_est

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

##### ias

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

##### iar

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

##### rel

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

##### repeat\_rel

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

##### int

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

##### guard

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

##### reset

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

##### reassembly

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

<1-999999>

Timer value, in seconds

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

#### Command

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

#### Global attributes

Flag: !

This command applies immediately

### Parameters

xua

SIGTRAN xxxUA related

rkm

Routing Key Management

routing-key-allocation

Routing Key Management Allocation Policy

static-only

Only static (pre-configured) Routing Keys permitted

dynamic-permitted

Dynamically allocate Routing Keys for what ASPs request

## config-cs7-as

### asp NAME

#### Command

```
asp NAME
```

#### Global attributes

Flag: !

This command applies immediately

#### Parameters

asp

Specify that a given ASP is part of this AS

NAME

Name of ASP to be added to AS

### 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
```

### Global attributes

Flag: !

This command applies immediately

### Parameters

no

Negate a command or set its defaults

asp

Specify ASP to be removed from this AS

NAME

Name of ASP to be removed

## no traffic-mode

### Command

```
no traffic-mode
```

### Parameters

no

Negate a command or set its defaults

traffic-mode

Remove explicit traffic mode of operation of this AS

## point-code override dpc PC

### Command

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

### Global attributes

Flag: !

This command applies immediately

### 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)
```

**Global attributes****Flag: !**

This command applies immediately

**Parameters****point-code**

Point Code Specific Features

**override**

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

**patch-sccp**

Patch point code values into SCCP called/calling address

**disabled**

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

**both**

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

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

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

**Global attributes****Flag: !**

This command applies immediately

**Parameters****qos-class**

Specity QoS Class of AS

**<0-255>**

QoS Class of AS

## recovery-timeout <1-2000>

### Command

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

### Global attributes

Flag: !

This command applies immediately

### 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
```

### Global attributes

Flag: !

This command applies immediately

### 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)
```

### Global attributes

---

Flag: !

This command applies immediately

#### Parameters

routing-key

Define a routing key

RCONTEXT

Routing context number

DPC

Destination Point Code

si

Match on Service Indicator

aal2

ATM Adaption Layer 2

bicc

Bearer Independent Call Control

b-isup

Broadband ISDN User Part

h248

H.248

isup

ISDN User Part

sat-isup

Sattelite ISDN User Part

sccp

Signalling Connection Control Part

tup

Telephony User Part

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

#### Command

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

#### Global attributes

Flag: !

This command applies immediately

#### Parameters

---

routing-key

Define a routing key

RCONTEXT

Routing context number

DPC

Destination Point Code

si

Match on Service Indicator

aal2

ATM Adaption Layer 2

bicc

Bearer Independent Call Control

b-isup

Broadband ISDN User Part

h248

H.248

isup

ISDN User Part

sat-isup

Sattelite ISDN User Part

sccp

Signalling Connection Control Part

tup

Telephony User Part

ssn

Match on Sub-System Number

SSN

Sub-System Number to match on

## **routing-key RCONTEXT DPC ssn SSN**

Command

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

Global attributes

Flag: !

This command applies immediately

Parameters

---

routing-key

Define a routing key

RCONTEXT

Routing context number

DPC

Destination Point Code

ssn

Match on Sub-System Number

SSN

Sub-System Number to match on

## **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
```

Global attributes

Flag: @

This command applies on VTY node exit

Parameters

block

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

## 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|X:X::X:X)

### Command

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

### Global attributes

#### Flag: @

This command applies on VTY node exit

### Parameters

#### local-ip

Specify Local IP Address from which to contact ASP

#### A.B.C.D

Local IPv4 Address from which to contact of ASP

#### X:X::X:X

Local IPv6 Address from which to contact of ASP

## qos-class <0-255>

### Command

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

### Global attributes

#### Flag: @

This command applies on VTY node exit

### Parameters

#### qos-class

Specify QoS Class of ASP

#### <0-255>

QoS Class of ASP

---

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

## Command

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

## Global attributes

Flag: @

This command applies on VTY node exit

## Parameters

remote-ip

Specify Remote IP Address of ASP

A.B.C.D

Remote IPv4 Address of ASP

X:X::X:X

Remote IPv6 Address of ASP

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

## Command

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

## Global attributes

Flag: @

This command applies on VTY node exit

## Parameters

role

Specify the xUA role for this ASP

sg

SG (Signaling Gateway)

asp

ASP (Application Server Process)

ipsp

IPSP (IP Signalling Point)

## sctp-role (client|server)

### Command

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

### Global attributes

#### Flag: @

This command applies on VTY node exit

### 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
```

### Global attributes

#### Flag: @

This command applies on VTY node exit

### Parameters

#### shutdown

Terminates SCTP association; New associations will be rejected

## config-cs7-sccpaddr

### global-title

### Command

```
global-title
```

### Global attributes

#### Flag: !

This command applies immediately

### Parameters

#### global-title

Add/Modify Global Title

---

## no global-title

### Command

```
no global-title
```

### Global attributes

#### Flag: !

This command applies immediately

### Parameters

#### no

Negate a command or set its defaults

#### global-title

Remove Global Title

## no point-code

### Command

```
no point-code
```

### Global attributes

#### Flag: !

This command applies immediately

### Parameters

#### no

Negate a command or set its defaults

#### point-code

Remove point-code Number

## no subsystem-number

### Command

```
no subsystem-number
```

### Global attributes

#### Flag: !

This command applies immediately

### Parameters

#### no

Negate a command or set its defaults

#### subsystem-number

Remove Subsystem Number

---

## point-code POINT\_CODE

### Command

```
point-code POINT_CODE
```

### Global attributes

Flag: !

This command applies immediately

### Parameters

point-code

Add point-code Number

POINT\_CODE

PC

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

### Command

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

### Global attributes

Flag: !

This command applies immediately

### Parameters

routing-indicator

Add Routing Indicator

GT

by global-title

PC

by point-code

IP

by ip-address

## **subsystem-number <0-4294967295>**

### Command

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

### Global attributes

Flag: !

This command applies immediately

### Parameters

subsystem-number

Add Subsystem Number

<0-4294967295>

SSN

## **config-cs7-sccpaddr-gt**

### **digits DIGITS**

### Command

```
digits DIGITS
```

### Global attributes

Flag: !

This command applies immediately

### Parameters

digits

Set Global Title Digits

DIGITS

Number digits

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

### Command

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

### Global attributes

---

Flag: !

This command applies immediately

Parameters

global-title-indicator

Set Global Title Indicator

<0-15>

GTI

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

Command

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

Global attributes

Flag: !

This command applies immediately

Parameters

nature-of-address-indicator

Set Global Title Nature of Address Indicator

<0-127>

NAI

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

Command

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

Global attributes

Flag: !

This command applies immediately

Parameters

numbering-plan-indicator

Set Global Title Numbering Plan Indicator

<0-15>

NPI

## translation-type <0-255>

### Command

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

### Global attributes

Flag: !

This command applies immediately

### Parameters

translation-type

Set Global Title Translation Type

<0-255>

TT

## config-cpu-sched

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

### Command

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

### Parameters

cpu-affinity

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

self

Set CPU affinity mask on thread running the VTY

all

Set CPU affinity mask on all process' threads

<0-4294967295>

Set CPU affinity mask on a thread with specified PID

THREADNAME

Set CPU affinity mask on a thread with specified thread name

CPUHEXMASK

CPU affinity mask

[delay]

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

---

## policy rr <1-32>

### Command

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

### Parameters

#### policy

Set the scheduling policy to use for the process

#### rr

Use the SCHED\_RR real-time scheduling algorithm

#### <1-32>

Set the SCHED\_RR real-time priority

## 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.

## &lt;0-3&gt;

A5/n Algorithm Number

## [&lt;0-3&gt;]

A5/n Algorithm Number

## [&lt;0-3&gt;]

A5/n Algorithm Number

## [&lt;0-3&gt;]

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'.

## &lt;0-2&gt;

UEAn Algorithm Number

## [&lt;0-2&gt;]

UEAn Algorithm Number

## [&lt;0-2&gt;]

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

<-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)

## 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.

## &lt;0-15&gt;

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.

## &lt;0-15&gt;

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|X:X::X:X)

### Command

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

### Parameters

#### mgw

Configure MGCP connection to Media Gateway

#### local-ip

local bind to connect to MGW from

#### A.B.C.D

local bind IPv4 address

#### X:X::X:X

local bind IPv6 address

## 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|X:X::X:X)

### Command

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

### Parameters

#### mgw

Configure MGCP connection to Media Gateway

#### remote-ip

remote IP address to reach the MGW at

#### A.B.C.D

remote IPv4 address

#### X:X::X:X

remote IPv6 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)

---

<0-999>

MCC

<0-999>

MNC

<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

**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

## &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

**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

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

## Command

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

## Parameters

nri

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

add

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

<0-32767>

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

[<0-32767>]

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

## **nri bitlen <0-15>**

Command

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

Parameters

nri

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

bitlen

Set number of NRI bits to place in TMSI identities (always starting just after the most significant octet)

<0-15>

bit count (default: NRI\_BITLEN\_DEFAULT)

## **nri del <0-32767> [<0-32767>]**

Command

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

Parameters

nri

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

del

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

<0-32767>

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

[<0-32767>]

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

---

## osmux (on|off|only)

### Command

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

### Parameters

#### osmux

RTP multiplexing

#### on

Enable OSMUX

#### off

Disable OSMUX

#### only

Only use OSMUX

## sms-database PATH

### Command

```
sms-database PATH
```

### Parameters

#### sms-database

Set the path to the MSC-SMS database file

#### PATH

Relative or absolute file system path to the database file (default is 'sms.db')

## 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-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

## 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

<1-120>

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