

## **OsmoSTP VTY Reference**

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## Chapter 1

# VTY reference

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

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

Table 1.1: VTY Parameter Patterns

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

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

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

Table 1.2: VTY port numbers

### 1.1 Common Commands

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

### 1.1.1 end

#### Command

```
end
```

#### Parameters

end

End current mode and change to enable mode.

### 1.1.2 exit

#### Command

```
exit
```

#### Parameters

exit

Exit current mode and down to previous mode

### 1.1.3 help

#### Command

```
help
```

#### Parameters

help

Description of the interactive help system

### 1.1.4 list [with-flags]

#### Command

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

#### Parameters

list

Print command list

[with-flags]

Also print the VTY attribute flags

---

### 1.1.5 show running-config

#### Command

```
show running-config
```

#### Parameters

show

Show running system information

running-config

running configuration

### 1.1.6 show vty-attributes

#### Command

```
show vty-attributes
```

#### Parameters

show

Show running system information

vty-attributes

List of VTY attributes

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

#### Command

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

#### Parameters

show

Show running system information

vty-attributes

List of VTY attributes

application

Application specific attributes only

library

Library specific attributes only

global

Global attributes only

---

### 1.1.8 write

Command

```
write
```

Parameters

write

Write running configuration to memory, network, or terminal

### 1.1.9 write file [PATH]

Command

```
write file [PATH]
```

Parameters

write

Write running configuration to memory, network, or terminal

file

Write to configuration file

[PATH]

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

### 1.1.10 write memory

Command

```
write memory
```

Parameters

write

Write running configuration to memory, network, or terminal

memory

Write configuration to the file (same as write file)

### 1.1.11 write terminal

Command

```
write terminal
```

Parameters

write

Write running configuration to memory, network, or terminal

terminal

Write to terminal



## 1.2 view

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

### 1.2.1 enable [expert-mode]

Command

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

Parameters

enable

Turn on privileged mode command

[expert-mode]

Enable the expert mode (show hidden commands)

### 1.2.2 logging color (0|1)

Command

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

Parameters

logging

Configure logging

color

Configure color-printing for log messages

0

Don't use color for printing messages

1

Use color for printing messages

### 1.2.3 logging disable

Command

```
logging disable
```

Parameters

logging

Configure logging

disable

Disables logging to this vty

---

### 1.2.4 logging enable

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

#### Command

```
logging enable
```

#### Parameters

##### logging

Configure logging

##### enable

Enables logging to this vty

### 1.2.5 logging filter all (0|1)

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

#### Command

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

#### Parameters

##### logging

Configure logging

##### filter

Filter log messages

##### all

Do you want to log all messages?

##### 0

Only print messages matched by other filters

##### 1

Bypass filter and print all messages

### 1.2.6 logging level (lglobal|llapd|linp|lmux|lmi|lmib|lsms|lctrl|lgtp|lstats|lgsup|loa...

#### Command

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

## Parameters

### logging

Configure logging

### level

Set the log level for a specified category

### 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

lms  
GPRS NS layer

lbssgp  
GPRS BSSGP layer

lmsdata  
GPRS NS layer data PDU

lmsignal  
GPRS NS layer signal PDU

liuup  
Iu UP layer

lpfcp  
libosmo-pfcp Packet Forwarding Control Protocol

lcsn1  
libosmo-csn1 Concrete Syntax Notation 1 codec

lio  
libosmocore IO Subsystem

debug  
Log debug messages and higher levels

info  
Log informational messages and higher levels

notice  
Log noticeable messages and higher levels

error  
Log error messages and higher levels

fatal  
Log only fatal messages

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

Command

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

Parameters

logging

Configure logging

#### level

Set the log level for a specified category

#### force-all

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

#### debug

Log debug messages and higher levels

#### info

Log informational messages and higher levels

#### notice

Log noticeable messages and higher levels

#### error

Log error messages and higher levels

#### fatal

Log only fatal messages

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

#### Command

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

#### Parameters

##### logging

Configure logging

##### level

Set the log level for a specified category

##### set-all

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

##### debug

Log debug messages and higher levels

##### info

Log informational messages and higher levels

##### notice

Log noticeable messages and higher levels

##### error

Log error messages and higher levels

##### fatal

Log only fatal messages

---

### 1.2.9 logging print category (0|1)

#### Command

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

#### Parameters

##### logging

Configure logging

##### print

Log output settings

##### category

Configure log message

0

Don't prefix each log message

1

Prefix each log message with category/subsystem name

### 1.2.10 logging print category-hex (0|1)

#### Command

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

#### Parameters

##### logging

Configure logging

##### print

Log output settings

##### category-hex

Configure log message

0

Don't prefix each log message

1

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

### 1.2.11 logging print extended-timestamp (0|1)

#### Command

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

#### Parameters

##### logging

Configure logging

##### print

Log output settings

##### extended-timestamp

Configure log message timestamping

0

Don't prefix each log message

1

Prefix each log message with current timestamp with YYYYMMDDhhmmssnnn

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

#### Command

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

#### Parameters

##### logging

Configure logging

##### print

Log output settings

##### file

Configure log message

0

Don't prefix each log message

1

Prefix each log message with the source file and line

##### basename

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

##### [last]

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

### 1.2.13 logging print level (0|1)

#### Command

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

#### Parameters

##### logging

Configure logging

##### print

Log output settings

##### level

Configure log message

0

Don't prefix each log message

1

Prefix each log message with the log level name

### 1.2.14 logging print thread-id (0|1)

#### Command

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

#### Parameters

##### logging

Configure logging

##### print

Log output settings

##### thread-id

Configure log message logging Thread ID

0

Don't prefix each log message

1

Prefix each log message with current Thread ID



### 1.2.15 logging set-log-mask MASK

#### Command

```
logging set-log-mask MASK
```

#### Parameters

##### logging

Configure logging

##### set-log-mask

Set the logmask of this logging target

##### MASK

List of logging categories to log, e.g. 'abc:mno:xyz'. Available log categories depend on the specific application, refer to the 'logging level' command. Optionally add individual log levels like 'abc,1:mno,3:xyz,5', where the level numbers are LOGL\_DEBUG=1 LOGL\_INFO=3 LOGL\_NOTICE=5 LOGL\_ERROR=7 LOGL\_FATAL=8

### 1.2.16 logging timestamp (0|1)

#### Command

```
logging timestamp (0|1)
```

#### Parameters

##### logging

Configure logging

##### timestamp

Configure log message timestamping

##### 0

Don't prefix each log message

##### 1

Prefix each log message with current timestamp

### 1.2.17 logp (lglobal|llapd|linp|lmux|lmi|lmib|lsms|lctrl|lgtp|lstats|lgsup|loap|lss7|ls...

#### Command

```
logp (lglobal|llapd|linp|lmux|lmi|lmib|lsms|lctrl|lgtp|lstats|lgsup|loap|lss7|lsccp| ↵
lsua|lm3ua|lmgcp|ljibuf|lrspro|lns|lbssgp|lnsdata|lnssignal|liuup|lpfcp|lcsn1|lio) ↵
(debug|info|notice|error|fatal) .LOGMESSAGE
```

#### Parameters

##### logp

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

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

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Osmocom Authentication Protocol

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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

lms  
    GPRS NS layer

lbssgp  
    GPRS BSSGP layer

lmsdata  
    GPRS NS layer data PDU

lmsignal  
    GPRS NS layer signal PDU

liuup  
    Iu UP layer

lpfcp  
    libosmo-pfcp Packet Forwarding Control Protocol

lcsn1  
    libosmo-csn1 Concrete Syntax Notation 1 codec

lio  
    libosmocore IO Subsystem

debug  
    Log debug messages and higher levels

info  
    Log informational messages and higher levels

notice  
    Log noticeable messages and higher levels

error  
    Log error messages and higher levels

fatal  
    Log only fatal messages

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

### 1.2.18 no logging level force-all

Command

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

Parameters

no

Negate a command or set its defaults

logging

Configure logging

level

Set the log level for a specified category

force-all

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

### 1.2.19 show alarms

Command

```
show alarms
```

Parameters

show

Show running system information

alarms

Show current logging configuration

### 1.2.20 show asciidoc counters

Command

```
show asciidoc counters
```

Parameters

show

Show running system information

asciidoc

Asciidoc generation

counters

Generate table of all registered counters

### 1.2.21 show cpu-sched threads

Command

```
show cpu-sched threads
```

Parameters

show

Show running system information

cpu-sched

Show Sched section information

threads

Show information about running threads)

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

#### Command

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

#### Parameters

show

Show running system information

cs7

ITU-T Signaling System 7

sua

SCCP User Adaptation

m3ua

MTP3 User Adaptation

ipa

IPA Multiplex (SCCP Lite)

sctp

SCTP (Stream Control Transmission Protocol)

tcp

TCP (Transmission Control Protocol)

[<0-65534>]

Local Port Number

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

#### Command

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

#### Parameters

show

Show running system information

cs7

ITU-T Signaling System 7

sua

SCCP User Adaptation

m3ua

MTP3 User Adaptation

ipa

IPA Multiplex (SCCP Lite)

[<0-65534>]

Local Port Number

### 1.2.24 show cs7 config

#### Command

```
show cs7 config
```

#### Parameters

show

Show running system information

cs7

ITU-T Signaling System 7

config

Currently running cs7 configuration

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

#### Command

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

#### Parameters

show

Show running system information

cs7

ITU-T Signaling System 7

instance

An instance of the SS7 stack

<0-15>

An instance of the SS7 stack

as

Application Server (AS)

active

Display all active ASs

all

Display all ASs (default)

m3ua

Display all m3ua ASs

sua

Display all SUA ASs

### 1.2.26 show cs7 instance <0-15> as binding-table name AS\_NAME

#### Command

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

#### Parameters

show

Show running system information

cs7

ITU-T Signaling System 7

instance

An instance of the SS7 stack

<0-15>

An instance of the SS7 stack

as

Application Server (AS)

binding-table

Display binding table

name

Look up AS with a given name

AS\_NAME

Name of the Application Server (AS)

### 1.2.27 show cs7 instance <0-15> as name AS\_NAME

#### Command

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

#### Parameters

show

Show running system information

cs7

ITU-T Signaling System 7

instance

An instance of the SS7 stack

<0-15>

An instance of the SS7 stack

as

Application Server (AS)

name

Look up AS with a given name

AS\_NAME

Name of the Application Server (AS)

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

Command

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

Parameters

show

Show running system information

cs7

ITU-T Signaling System 7

instance

An instance of the SS7 stack

<0-15>

An instance of the SS7 stack

asp

Application Server Process (ASP)

### 1.2.29 show cs7 instance <0-15> asp name ASP\_NAME

Command

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

Parameters

show

Show running system information

cs7

ITU-T Signaling System 7

instance

An instance of the SS7 stack

<0-15>

An instance of the SS7 stack

asp

Application Server Process (ASP)

name

Lookup ASP with a given name

ASP\_NAME

Name of the Application Server Process (ASP)

---



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

#### Command

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

#### Parameters

show

Show running system information

cs7

ITU-T Signaling System 7

instance

An instance of the SS7 stack

<0-15>

An instance of the SS7 stack

asp-assoc-status

Application Server Process (ASP) SCTP association status

### 1.2.31 show cs7 instance <0-15> asp-assoc-status name ASP\_NAME

#### Command

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

#### Parameters

show

Show running system information

cs7

ITU-T Signaling System 7

instance

An instance of the SS7 stack

<0-15>

An instance of the SS7 stack

asp-assoc-status

Application Server Process (ASP) SCTP association information

name

Lookup ASP with a given name

ASP\_NAME

Name of the Application Server Process (ASP)

---

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

#### Command

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

#### Parameters

show

Show running system information

cs7

ITU-T Signaling System 7

instance

An instance of the SS7 stack

<0-15>

An instance of the SS7 stack

asp-remaddr

Application Server Process (ASP) remote addresses information

### 1.2.33 show cs7 instance <0-15> asp-remaddr name ASP\_NAME

#### Command

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

#### Parameters

show

Show running system information

cs7

ITU-T Signaling System 7

instance

An instance of the SS7 stack

<0-15>

An instance of the SS7 stack

asp-remaddr

Application Server Process (ASP) remote addresses information

name

Lookup ASP with a given name

ASP\_NAME

Name of the Application Server Process (ASP)

---

### 1.2.34 show cs7 instance <0-15> route [POINT\_CODE]

#### Command

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

#### Parameters

##### show

Show running system information

##### cs7

ITU-T Signaling System 7

##### instance

An instance of the SS7 stack

##### <0-15>

An instance of the SS7 stack

##### route

Routing Table

##### [POINT\_CODE]

Destination Point Code

### 1.2.35 show cs7 instance <0-15> route binding-table [POINT\_CODE] [all-matches]

#### Command

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

#### Parameters

##### show

Show running system information

##### cs7

ITU-T Signaling System 7

##### instance

An instance of the SS7 stack

##### <0-15>

An instance of the SS7 stack

##### route

Routing Table

##### binding-table

Display binding table

##### [POINT\_CODE]

Destination Point Code

##### [all-matches]

Display all matching Combination Links

---

### 1.2.36 show cs7 instance <0-15> route-lookup POINT\_CODE from POINT\_CODE sls <0-15> [lis...

#### Command

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

#### Parameters

show

Show running system information

cs7

ITU-T Signaling System 7

instance

An instance of the SS7 stack

<0-15>

An instance of the SS7 stack

route-lookup

Look up route

POINT\_CODE

Destination PC

from

From

POINT\_CODE

Origin PC

sls

SLS

<0-15>

SLS value

[list-asps]

List ASPs of the AS if route points to an AS

### 1.2.37 show cs7 instance <0-15> sccp addressbook

#### Command

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

#### Parameters

show

Show running system information

cs7

ITU-T Signaling System 7

instance

An instance of the SS7 stack

<0-15>

An instance of the SS7 stack

sccp

Signalling Connection Control Part

addressbook

List all SCCP addressbook entries

### 1.2.38 show cs7 instance <0-15> sccp connections

Command

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

Parameters

show

Show running system information

cs7

ITU-T Signaling System 7

instance

An instance of the SS7 stack

<0-15>

An instance of the SS7 stack

sccp

Signalling Connection Control Part

connections

Show List of active SCCP connections

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

Command

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

Parameters

show

Show running system information

cs7

ITU-T Signaling System 7

instance

An instance of the SS7 stack

<0-15>

An instance of the SS7 stack

sccp

Signalling Connection Control Part

ssn

Find an SCCP User registered for the given SSN

<0-65535>

Subsystem Number (SSN)

### 1.2.40 show cs7 instance <0-15> sccp timers

Command

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

Parameters

show

Show running system information

cs7

ITU-T Signaling System 7

instance

An instance of the SS7 stack

<0-15>

An instance of the SS7 stack

sccp

Signaling Connection Control Part

timers

Show List of SCCP timers

### 1.2.41 show cs7 instance <0-15> sccp users

Command

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

Parameters

show

Show running system information

cs7

ITU-T Signaling System 7

instance

An instance of the SS7 stack

<0-15>

An instance of the SS7 stack

sccp

Signalling Connection Control Part

users

Show List of SCCP Users registered

### 1.2.42 show cs7 instance <0-15> users

Command

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

Parameters

show

Show running system information

cs7

ITU-T Signaling System 7

instance

An instance of the SS7 stack

<0-15>

An instance of the SS7 stack

users

User Table

### 1.2.43 show fsm NAME

Command

```
show fsm NAME
```

Parameters

show

Show running system information

fsm

Show information about finite state machines

NAME

Display information about a single named finite state machine

### 1.2.44 show fsm all

#### Command

```
show fsm all
```

#### Parameters

##### show

Show running system information

##### fsm

Show information about finite state machines

##### all

Display a list of all registered finite state machines

### 1.2.45 show fsm-instances NAME

#### Command

```
show fsm-instances NAME
```

#### Parameters

##### show

Show running system information

##### fsm-instances

Show information about finite state machine instances

##### NAME

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

### 1.2.46 show fsm-instances all

#### Command

```
show fsm-instances all
```

#### Parameters

##### show

Show running system information

##### fsm-instances

Show information about finite state machine instances

##### all

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

---



### 1.2.47 show fsm-state-graph NAME

#### Command

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

#### Parameters

show

Show running system information

fsm-state-graph

Generate a state transition graph (using DOT language)

NAME

FSM name

### 1.2.48 show history

#### Command

```
show history
```

#### Parameters

show

Show running system information

history

Display the session command history

### 1.2.49 show logging vty

#### Command

```
show logging vty
```

#### Parameters

show

Show running system information

logging

Show current logging configuration

vty

Show current logging configuration for this vty

---

### 1.2.50 show online-help

#### Command

```
show online-help
```

#### Parameters

##### show

Show running system information

##### online-help

Online help

### 1.2.51 show pid

#### Command

```
show pid
```

#### Parameters

##### show

Show running system information

##### pid

Displays the process ID

### 1.2.52 show rate-counters [skip-zero]

#### Command

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

#### Parameters

##### show

Show running system information

##### rate-counters

Show all rate counters

##### [skip-zero]

Skip items with total count zero

---

### 1.2.53 show stats [skip-zero]

#### Command

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

#### Parameters

##### show

Show running system information

##### stats

Show statistical values

##### [skip-zero]

Skip items with total count zero

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

#### Command

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

#### Parameters

##### show

Show running system information

##### stats

Show statistical values

##### level

Set the maximum group level

##### global

Show global groups only

##### peer

Show global and network peer related groups

##### subscriber

Show global, peer, and subscriber groups

##### [skip-zero]

Skip items with total count zero

---

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

#### Command

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

#### Parameters

show

Show running system information

talloc-context

Show talloc memory hierarchy

application

Application's context

global

Global context (OTC\_GLOBAL)

all

All contexts, if NULL-context tracking is enabled

full

Display a full talloc memory hierarchy

brief

Display a brief talloc memory hierarchy

DEPTH

Specify required maximal depth value

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

#### Command

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

#### Parameters

show

Show running system information

talloc-context

Show talloc memory hierarchy

application

Application's context

global

Global context (OTC\_GLOBAL)

all

All contexts, if NULL-context tracking is enabled

full

Display a full talloc memory hierarchy

brief

Display a brief talloc memory hierarchy

DEPTH

Specify required maximal depth value

filter

Filter chunks using regular expression

REGEXP

Regular expression

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

Command

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

Parameters

show

Show running system information

talloc-context

Show talloc memory hierarchy

application

Application's context

global

Global context (OTC\_GLOBAL)

all

All contexts, if NULL-context tracking is enabled

full

Display a full talloc memory hierarchy

brief

Display a brief talloc memory hierarchy

DEPTH

Specify required maximal depth value

tree

Display only a specific memory chunk

ADDRESS

Chunk address (e.g. 0xdeadbeef)

### 1.2.58 show uptime

#### Command

```
show uptime
```

#### Parameters

##### show

Show running system information

##### uptime

Displays how long the program has been running

### 1.2.59 show version

#### Command

```
show version
```

#### Parameters

##### show

Show running system information

##### version

Displays program version

### 1.2.60 terminal length <0-512>

#### Command

```
terminal length <0-512>
```

#### Parameters

##### terminal

Set terminal line parameters

##### length

Set number of lines on a screen

##### <0-512>

Number of lines on screen (0 for no pausing)

---

### 1.2.61 terminal no length

#### Command

```
terminal no length
```

#### Parameters

##### terminal

Set terminal line parameters

##### no

Negate a command or set its defaults

##### length

Set number of lines on a screen

### 1.2.62 who

#### Command

```
who
```

#### Parameters

##### who

Display who is on vty

## 1.3 enable

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

### 1.3.1 configure [terminal]

#### Command

```
configure [terminal]
```

#### Parameters

##### configure

Configuration from vty interface

##### [terminal]

Configuration terminal

### 1.3.2 copy running-config startup-config

#### Command

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

#### Parameters

##### copy

Copy configuration

##### running-config

Copy running config to...

##### startup-config

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

### 1.3.3 cs7 instance <0-15> asp NAME disconnect

#### Command

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

#### Parameters

##### cs7

ITU-T Signaling System 7

##### instance

Instance related commands

##### <0-15>

SS7 Instance Number

##### asp

ASP related commands

##### NAME

Name of ASP

##### disconnect

Disconnect the ASP (client will reconnect)

### 1.3.4 disable

#### Command

```
disable
```

#### Parameters

##### disable

Turn off privileged mode command

---



### 1.3.5 logging color (0|1)

#### Command

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

#### Parameters

##### logging

Configure logging

##### color

Configure color-printing for log messages

0

Don't use color for printing messages

1

Use color for printing messages

### 1.3.6 logging disable

#### Command

```
logging disable
```

#### Parameters

##### logging

Configure logging

##### disable

Disables logging to this vty

### 1.3.7 logging enable

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

#### Command

```
logging enable
```

#### Parameters

##### logging

Configure logging

##### enable

Enables logging to this vty

---

### 1.3.8 logging filter all (0|1)

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

#### Command

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

#### Parameters

##### logging

Configure logging

##### filter

Filter log messages

##### all

Do you want to log all messages?

##### 0

Only print messages matched by other filters

##### 1

Bypass filter and print all messages

### 1.3.9 logging level (lglobal|llapd|linp|lmux|lmi|lmib|lsms|lctrl|lgtp|lstats|lgsup|loa...

#### Command

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

#### Parameters

##### logging

Configure logging

##### level

Set the log level for a specified category

##### lglobal

Library-internal global log family

##### llapd

LAPD in libosmogsm

##### linp

A-bis Input Subsystem

---

lmux  
A-bis B-Subchannel TRAU Frame Multiplex

lmi  
A-bis Input Driver for Signalling

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

lsms  
Layer3 Short Message Service (SMS)

lctrl  
Control Interface

lgtp  
GPRS GTP library

lstats  
Statistics messages and logging

lgsup  
Generic Subscriber Update Protocol

loap  
Osmocom Authentication Protocol

lss7  
libosmo-sigtran Signalling System 7

lsccp  
libosmo-sigtran SCCP Implementation

lsua  
libosmo-sigtran SCCP User Adaptation

lm3ua  
libosmo-sigtran MTP3 User Adaptation

lmgcp  
libosmo-mgcp Media Gateway Control Protocol

ljibuf  
libosmo-netif Jitter Buffer

lrspro  
Remote SIM protocol

lns  
GPRS NS layer

lbssgp  
GPRS BSSGP layer

lndata  
GPRS NS layer data PDU

---

**Inssignal**

GPRS NS layer signal PDU

**liuup**

Iu UP layer

**lpfcp**

libosmo-pfcp Packet Forwarding Control Protocol

**lcsn1**

libosmo-csn1 Concrete Syntax Notation 1 codec

**lio**

libosmocore IO Subsystem

**debug**

Log debug messages and higher levels

**info**

Log informational messages and higher levels

**notice**

Log noticeable messages and higher levels

**error**

Log error messages and higher levels

**fatal**

Log only fatal messages

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

**Command**

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

**Parameters****logging**

Configure logging

**level**

Set the log level for a specified category

**force-all**

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

**debug**

Log debug messages and higher levels

**info**

Log informational messages and higher levels

notice

Log noticeable messages and higher levels

error

Log error messages and higher levels

fatal

Log only fatal messages

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

Command

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

Parameters

logging

Configure logging

level

Set the log level for a specified category

set-all

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

debug

Log debug messages and higher levels

info

Log informational messages and higher levels

notice

Log noticeable messages and higher levels

error

Log error messages and higher levels

fatal

Log only fatal messages

### 1.3.12 logging print category (0|1)

Command

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

Parameters

logging

Configure logging

print  
    Log output settings

category  
    Configure log message

0  
    Don't prefix each log message

1  
    Prefix each log message with category/subsystem name

### 1.3.13 logging print category-hex (0|1)

Command

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

Parameters

logging  
    Configure logging

print  
    Log output settings

category-hex  
    Configure log message

0  
    Don't prefix each log message

1  
    Prefix each log message with category/subsystem nr in hex ('<000b>')

### 1.3.14 logging print extended-timestamp (0|1)

Command

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

Parameters

logging  
    Configure logging

print  
    Log output settings

extended-timestamp  
    Configure log message timestamping

0  
    Don't prefix each log message

1  
    Prefix each log message with current timestamp with YYYYMMDDhhmmssnnn

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

#### Command

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

#### Parameters

##### logging

Configure logging

##### print

Log output settings

##### file

Configure log message

##### 0

Don't prefix each log message

##### 1

Prefix each log message with the source file and line

##### basename

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

##### [last]

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

### 1.3.16 logging print level (0|1)

#### Command

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

#### Parameters

##### logging

Configure logging

##### print

Log output settings

##### level

Configure log message

##### 0

Don't prefix each log message

##### 1

Prefix each log message with the log level name

### 1.3.17 logging print thread-id (0|1)

#### Command

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

#### Parameters

##### logging

Configure logging

##### print

Log output settings

##### thread-id

Configure log message logging Thread ID

0

Don't prefix each log message

1

Prefix each log message with current Thread ID

### 1.3.18 logging set-log-mask MASK

#### Command

```
logging set-log-mask MASK
```

#### Parameters

##### logging

Configure logging

##### set-log-mask

Set the logmask of this logging target

##### MASK

List of logging categories to log, e.g. 'abc:mno:xyz'. Available log categories depend on the specific application, refer to the 'logging level' command. Optionally add individual log levels like 'abc,1:mno,3:xyz,5', where the level numbers are LOGL\_DEBUG=1 LOGL\_INFO=3 LOGL\_NOTICE=5 LOGL\_ERROR=7 LOGL\_FATAL=8

### 1.3.19 logging timestamp (0|1)

#### Command

```
logging timestamp (0|1)
```

#### Parameters

---



**logging**

Configure logging

**timestamp**

Configure log message timestamping

0

Don't prefix each log message

1

Prefix each log message with current timestamp

**1.3.20 logp (lglobal|llapd|linp|lmux|lmi|lmib|lsms|lctrl|lgtp|lstats|lgsup|loap|lss7|ls...****Command**

```
logp (lglobal|llapd|linp|lmux|lmi|lmib|lsms|lctrl|lgtp|lstats|lgsup|loap|lss7|lscpp| ↔
lsua|lm3ua|lmgcp|ljibuf|lrspro|lns|lbssgp|lnsdata|lnssignal|liuup|lpfcp|lcsn1|lio) ↔
(debug|info|notice|error|fatal) .LOGMESSAGE
```

**Parameters****logp**

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

**lglobal**

Library-internal global log family

**llapd**

LAPD in libosmogsm

**linp**

A-bis Input Subsystem

**lmux**

A-bis B-Subchannel TRAU Frame Multiplex

**lmi**

A-bis Input Driver for Signalling

**lmib**

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

**lsms**

Layer3 Short Message Service (SMS)

**lctrl**

Control Interface

**lgtp**

GPRS GTP library

**lstats**

Statistics messages and logging

---

lgsup  
Generic Subscriber Update Protocol

loap  
Osmocom Authentication Protocol

lss7  
libosmo-sigtran Signalling System 7

lsccp  
libosmo-sigtran SCCP Implementation

lsua  
libosmo-sigtran SCCP User Adaptation

lm3ua  
libosmo-sigtran MTP3 User Adaptation

lmgcp  
libosmo-mgcp Media Gateway Control Protocol

ljibuf  
libosmo-netif Jitter Buffer

lrspro  
Remote SIM protocol

lns  
GPRS NS layer

lbssgp  
GPRS BSSGP layer

lnsdata  
GPRS NS layer data PDU

lnssignal  
GPRS NS layer signal PDU

liuup  
Iu UP layer

lpfcp  
libosmo-pfcp Packet Forwarding Control Protocol

lcsn1  
libosmo-csn1 Concrete Syntax Notation 1 codec

lio  
libosmocore IO Subsystem

debug  
Log debug messages and higher levels

info  
Log informational messages and higher levels

---

notice

Log noticeable messages and higher levels

error

Log error messages and higher levels

fatal

Log only fatal messages

.LOGMESSAGE

Arbitrary message to log on given category and log level

### 1.3.21 no logging level force-all

Command

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

Parameters

no

Negate a command or set its defaults

logging

Configure logging

level

Set the log level for a specified category

force-all

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

### 1.3.22 show alarms

Command

```
show alarms
```

Parameters

show

Show running system information

alarms

Show current logging configuration

### 1.3.23 show asciidoc counters

#### Command

```
show asciidoc counters
```

#### Parameters

show

Show running system information

asciidoc

Asciidoc generation

counters

Generate table of all registered counters

### 1.3.24 show cpu-sched threads

#### Command

```
show cpu-sched threads
```

#### Parameters

show

Show running system information

cpu-sched

Show Sched section information

threads

Show information about running threads)

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

#### Command

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

#### Parameters

show

Show running system information

cs7

ITU-T Signaling System 7

sua

SCCP User Adaptation

m3ua  
MTP3 User Adaptation

ipa  
IPA Multiplex (SCCP Lite)

sctp  
SCTP (Stream Control Transmission Protocol)

tcp  
TCP (Transmission Control Protocol)

[<0-65534>]  
Local Port Number

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

#### Command

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

#### Parameters

show  
Show running system information

cs7  
ITU-T Signaling System 7

sua  
SCCP User Adaptation

m3ua  
MTP3 User Adaptation

ipa  
IPA Multiplex (SCCP Lite)

[<0-65534>]  
Local Port Number

### 1.3.27 show cs7 config

#### Command

```
show cs7 config
```

#### Parameters

show  
Show running system information

cs7  
ITU-T Signaling System 7

config  
Currently running cs7 configuration

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

#### Command

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

#### Parameters

show

Show running system information

cs7

ITU-T Signaling System 7

instance

An instance of the SS7 stack

<0-15>

An instance of the SS7 stack

as

Application Server (AS)

active

Display all active ASs

all

Display all ASs (default)

m3ua

Display all m3ua ASs

sua

Display all SUA ASs

### 1.3.29 show cs7 instance <0-15> as binding-table name AS\_NAME

#### Command

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

#### Parameters

show

Show running system information

cs7

ITU-T Signaling System 7

instance

An instance of the SS7 stack

<0-15>

An instance of the SS7 stack

as

Application Server (AS)

binding-table

Display binding table

name

Look up AS with a given name

AS\_NAME

Name of the Application Server (AS)

### 1.3.30 show cs7 instance <0-15> as name AS\_NAME

Command

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

Parameters

show

Show running system information

cs7

ITU-T Signaling System 7

instance

An instance of the SS7 stack

<0-15>

An instance of the SS7 stack

as

Application Server (AS)

name

Look up AS with a given name

AS\_NAME

Name of the Application Server (AS)

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

Command

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

Parameters

show

Show running system information

cs7

ITU-T Signaling System 7

instance

An instance of the SS7 stack

<0-15>

An instance of the SS7 stack

asp

Application Server Process (ASP)

### 1.3.32 show cs7 instance <0-15> asp name ASP\_NAME

Command

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

Parameters

show

Show running system information

cs7

ITU-T Signaling System 7

instance

An instance of the SS7 stack

<0-15>

An instance of the SS7 stack

asp

Application Server Process (ASP)

name

Lookup ASP with a given name

ASP\_NAME

Name of the Application Server Process (ASP)

### 1.3.33 show cs7 instance <0-15> asp-assoc-status

Command

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

Parameters

show

Show running system information



cs7

ITU-T Signaling System 7

instance

An instance of the SS7 stack

<0-15>

An instance of the SS7 stack

asp-assoc-status

Application Server Process (ASP) SCTP association status

### 1.3.34 show cs7 instance <0-15> asp-assoc-status name ASP\_NAME

Command

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

Parameters

show

Show running system information

cs7

ITU-T Signaling System 7

instance

An instance of the SS7 stack

<0-15>

An instance of the SS7 stack

asp-assoc-status

Application Server Process (ASP) SCTP association information

name

Lookup ASP with a given name

ASP\_NAME

Name of the Application Server Process (ASP)

### 1.3.35 show cs7 instance <0-15> asp-remaddr

Command

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

Parameters

show

Show running system information

cs7

ITU-T Signaling System 7

instance

An instance of the SS7 stack

<0-15>

An instance of the SS7 stack

asp-remaddr

Application Server Process (ASP) remote addresses information

### 1.3.36 show cs7 instance <0-15> asp-remaddr name ASP\_NAME

Command

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

Parameters

show

Show running system information

cs7

ITU-T Signaling System 7

instance

An instance of the SS7 stack

<0-15>

An instance of the SS7 stack

asp-remaddr

Application Server Process (ASP) remote addresses information

name

Lookup ASP with a given name

ASP\_NAME

Name of the Application Server Process (ASP)

### 1.3.37 show cs7 instance <0-15> route [POINT\_CODE]

Command

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

Parameters

show

Show running system information

cs7

ITU-T Signaling System 7

instance

An instance of the SS7 stack

<0-15>

An instance of the SS7 stack

route

Routing Table

[POINT\_CODE]

Destination Point Code

### 1.3.38 show cs7 instance <0-15> route binding-table [POINT\_CODE] [all-matches]

Command

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

Parameters

show

Show running system information

cs7

ITU-T Signaling System 7

instance

An instance of the SS7 stack

<0-15>

An instance of the SS7 stack

route

Routing Table

binding-table

Display binding table

[POINT\_CODE]

Destination Point Code

[all-matches]

Display all matching Combination Links

---

### 1.3.39 show cs7 instance <0-15> route-lookup POINT\_CODE from POINT\_CODE sls <0-15> [lis...

#### Command

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

#### Parameters

show

Show running system information

cs7

ITU-T Signaling System 7

instance

An instance of the SS7 stack

<0-15>

An instance of the SS7 stack

route-lookup

Look up route

POINT\_CODE

Destination PC

from

From

POINT\_CODE

Origin PC

sls

SLS

<0-15>

SLS value

[list-asps]

List ASPs of the AS if route points to an AS

### 1.3.40 show cs7 instance <0-15> sccp addressbook

#### Command

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

#### Parameters

show

Show running system information

cs7

ITU-T Signaling System 7

instance

An instance of the SS7 stack

<0-15>

An instance of the SS7 stack

sccp

Signalling Connection Control Part

addressbook

List all SCCP addressbook entries

### 1.3.41 show cs7 instance <0-15> sccp connections

Command

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

Parameters

show

Show running system information

cs7

ITU-T Signaling System 7

instance

An instance of the SS7 stack

<0-15>

An instance of the SS7 stack

sccp

Signalling Connection Control Part

connections

Show List of active SCCP connections

### 1.3.42 show cs7 instance <0-15> sccp ssn <0-65535>

Command

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

Parameters

show

Show running system information

cs7

ITU-T Signaling System 7

instance

An instance of the SS7 stack

<0-15>

An instance of the SS7 stack

sccp

Signalling Connection Control Part

ssn

Find an SCCP User registered for the given SSN

<0-65535>

Subsystem Number (SSN)

### 1.3.43 show cs7 instance <0-15> sccp timers

Command

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

Parameters

show

Show running system information

cs7

ITU-T Signaling System 7

instance

An instance of the SS7 stack

<0-15>

An instance of the SS7 stack

sccp

Signaling Connection Control Part

timers

Show List of SCCP timers

### 1.3.44 show cs7 instance <0-15> sccp users

Command

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

Parameters

show

Show running system information

cs7

ITU-T Signaling System 7

instance

An instance of the SS7 stack

<0-15>

An instance of the SS7 stack

sccp

Signalling Connection Control Part

users

Show List of SCCP Users registered

### 1.3.45 show cs7 instance <0-15> users

Command

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

Parameters

show

Show running system information

cs7

ITU-T Signaling System 7

instance

An instance of the SS7 stack

<0-15>

An instance of the SS7 stack

users

User Table

### 1.3.46 show fsm NAME

Command

```
show fsm NAME
```

Parameters

show

Show running system information

fsm

Show information about finite state machines

NAME

Display information about a single named finite state machine

### 1.3.47 show fsm all

#### Command

```
show fsm all
```

#### Parameters

show

Show running system information

fsm

Show information about finite state machines

all

Display a list of all registered finite state machines

### 1.3.48 show fsm-instances NAME

#### Command

```
show fsm-instances NAME
```

#### Parameters

show

Show running system information

fsm-instances

Show information about finite state machine instances

NAME

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

### 1.3.49 show fsm-instances all

#### Command

```
show fsm-instances all
```

#### Parameters

show

Show running system information

fsm-instances

Show information about finite state machine instances

all

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

---



### 1.3.50 show fsm-state-graph NAME

#### Command

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

#### Parameters

show

Show running system information

fsm-state-graph

Generate a state transition graph (using DOT language)

NAME

FSM name

### 1.3.51 show history

#### Command

```
show history
```

#### Parameters

show

Show running system information

history

Display the session command history

### 1.3.52 show logging vty

#### Command

```
show logging vty
```

#### Parameters

show

Show running system information

logging

Show current logging configuration

vty

Show current logging configuration for this vty

---

### 1.3.53 show online-help

#### Command

```
show online-help
```

#### Parameters

##### show

Show running system information

##### online-help

Online help

### 1.3.54 show rate-counters [skip-zero]

#### Command

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

#### Parameters

##### show

Show running system information

##### rate-counters

Show all rate counters

##### [skip-zero]

Skip items with total count zero

### 1.3.55 show startup-config

#### Command

```
show startup-config
```

#### Parameters

##### show

Show running system information

##### startup-config

Contentes of startup configuration

---

### 1.3.56 show stats [skip-zero]

#### Command

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

#### Parameters

##### show

Show running system information

##### stats

Show statistical values

##### [skip-zero]

Skip items with total count zero

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

#### Command

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

#### Parameters

##### show

Show running system information

##### stats

Show statistical values

##### level

Set the maximum group level

##### global

Show global groups only

##### peer

Show global and network peer related groups

##### subscriber

Show global, peer, and subscriber groups

##### [skip-zero]

Skip items with total count zero

---

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

#### Command

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

#### Parameters

show

Show running system information

talloc-context

Show talloc memory hierarchy

application

Application's context

global

Global context (OTC\_GLOBAL)

all

All contexts, if NULL-context tracking is enabled

full

Display a full talloc memory hierarchy

brief

Display a brief talloc memory hierarchy

DEPTH

Specify required maximal depth value

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

#### Command

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

#### Parameters

show

Show running system information

talloc-context

Show talloc memory hierarchy

application

Application's context

global

Global context (OTC\_GLOBAL)

all

All contexts, if NULL-context tracking is enabled

full

Display a full talloc memory hierarchy

brief

Display a brief talloc memory hierarchy

DEPTH

Specify required maximal depth value

filter

Filter chunks using regular expression

REGEXP

Regular expression

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

Command

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

Parameters

show

Show running system information

talloc-context

Show talloc memory hierarchy

application

Application's context

global

Global context (OTC\_GLOBAL)

all

All contexts, if NULL-context tracking is enabled

full

Display a full talloc memory hierarchy

brief

Display a brief talloc memory hierarchy

DEPTH

Specify required maximal depth value

tree

Display only a specific memory chunk

ADDRESS

Chunk address (e.g. 0xdeadbeef)

### 1.3.61 show version

#### Command

```
show version
```

#### Parameters

##### show

Show running system information

##### version

Displays program version

### 1.3.62 shutdown

#### Command

```
shutdown
```

#### Parameters

##### shutdown

Request a shutdown of the program

### 1.3.63 stats report

#### Command

```
stats report
```

#### Parameters

##### stats

Stats related commands

##### report

Manurally trigger reporting of stats

### 1.3.64 stats reset

#### Command

```
stats reset
```

#### Parameters

##### stats

Stats related commands

##### reset

Reset all rate counter stats

---

### 1.3.65 terminal length <0-512>

#### Command

```
terminal length <0-512>
```

#### Parameters

##### terminal

Set terminal line parameters

##### length

Set number of lines on a screen

##### <0-512>

Number of lines on screen (0 for no pausing)

### 1.3.66 terminal monitor

#### Command

```
terminal monitor
```

#### Parameters

##### terminal

Set terminal line parameters

##### monitor

Copy debug output to the current terminal line

### 1.3.67 terminal no length

#### Command

```
terminal no length
```

#### Parameters

##### terminal

Set terminal line parameters

##### no

Negate a command or set its defaults

##### length

Set number of lines on a screen

### 1.3.68 terminal no monitor

#### Command

```
terminal no monitor
```

#### Parameters

##### terminal

Set terminal line parameters

##### no

Negate a command or set its defaults

##### monitor

Copy debug output to the current terminal line

### 1.3.69 who

#### Command

```
who
```

#### Parameters

##### who

Display who is on vty

## 1.4 config

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

### 1.4.1 banner motd default

#### Command

```
banner motd default
```

#### Parameters

##### banner

Set banner string

##### motd

Strings for motd

##### default

Default string

---



### 1.4.2 banner motd file [FILE]

#### Command

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

#### Parameters

banner

Set banner

motd

Banner for motd

file

Banner from a file

[FILE]

Filename

### 1.4.3 cpu-sched

#### Command

```
cpu-sched
```

#### Parameters

cpu-sched

Configure CPU Scheduler related settings

### 1.4.4 cs7 instance <0-15>

#### Command

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

#### Global attributes

Flag: !

This command applies immediately

#### Parameters

cs7

ITU-T Signaling System 7

instance

Configure a SS7 Instance

<0-15>

An instance of the SS7 stack

### 1.4.5 enable password (8|) WORD

#### Command

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

#### Parameters

##### enable

Modify enable password parameters

##### password

Assign the privileged level password

##### 8

Specifies a HIDDEN password will follow

##### dummy string

##### WORD

The HIDDEN 'enable' password string

### 1.4.6 enable password LINE

#### Command

```
enable password LINE
```

#### Parameters

##### enable

Modify enable password parameters

##### password

Assign the privileged level password

##### LINE

The UNENCRYPTED (cleartext) 'enable' password

### 1.4.7 hostname WORD

#### Command

```
hostname WORD
```

#### Parameters

##### hostname

Set system's network name

##### WORD

This system's network name

---

### 1.4.8 line vty

#### Command

```
line vty
```

#### Parameters

line

Configure a terminal line

vtty

Virtual terminal

### 1.4.9 log alarms <2-32700>

#### Command

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

#### Parameters

log

Configure logging sub-system

alarms

Logging alarms to osmo\_strrb

<2-32700>

Maximum number of messages to log

### 1.4.10 log file FILENAME [blocking-io]

#### Command

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

#### Parameters

log

Configure logging sub-system

file

Logging to text file

FILENAME

Filename

[blocking-io]

Use blocking, synchronous I/O

---

### 1.4.11 log gsmtap [HOSTNAME]

#### Command

```
log gsmtap [HOSTNAME]
```

#### Parameters

log

Configure logging sub-system

gsmtap

Logging via GSMTAP

[HOSTNAME]

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

### 1.4.12 log stderr [blocking-io]

#### Command

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

#### Parameters

log

Configure logging sub-system

stderr

Logging via STDERR of the process

[blocking-io]

Use blocking, synchronous I/O

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

#### Command

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

#### Parameters

log

Configure logging sub-system

syslog

Logging via syslog

authpriv

Security/authorization messages facility

cron

Clock daemon (cron/at) facility

daemon

General system daemon facility

ftp

Ftp daemon facility

lpr

Line printer facility

mail

Mail facility

news

News facility

user

Generic facility

uucp

UUCP facility

#### 1.4.14 log syslog local <0-7>

Command

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

Parameters

log

Configure logging sub-system

syslog

Logging via syslog

local

Syslog LOCAL facility

<0-7>

Local facility number

#### 1.4.15 log systemd-journal [raw]

Command

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

Parameters

---

log

Configure logging sub-system

systemd-journal

Logging to systemd-journal

[raw]

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

#### 1.4.16 no banner motd

Command

```
no banner motd
```

Parameters

no

Negate a command or set its defaults

banner

Set banner string

motd

Strings for motd

#### 1.4.17 no enable password

Command

```
no enable password
```

Parameters

no

Negate a command or set its defaults

enable

Modify enable password parameters

password

Assign the privileged level password

### 1.4.18 no hostname [HOSTNAME]

#### Command

```
no hostname [HOSTNAME]
```

#### Parameters

no

Negate a command or set its defaults

hostname

Reset system's network name

[HOSTNAME]

Host name of this router

### 1.4.19 no log alarms

#### Command

```
no log alarms
```

#### Parameters

no

Negate a command or set its defaults

log

Configure logging sub-system

alarms

Logging alarms to osmo\_strrb

### 1.4.20 no log file FILENAME

#### Command

```
no log file FILENAME
```

#### Parameters

no

Negate a command or set its defaults

log

Configure logging sub-system

file

Logging to text file

FILENAME

Filename

### 1.4.21 no log gsmtap [HOSTNAME]

#### Command

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

#### Parameters

no

Negate a command or set its defaults

log

Configure logging sub-system

gsmtap

Logging via GSMTAP

[HOSTNAME]

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

### 1.4.22 no log stderr

#### Command

```
no log stderr
```

#### Parameters

no

Negate a command or set its defaults

log

Configure logging sub-system

stderr

Logging via STDERR of the process

### 1.4.23 no log syslog

#### Command

```
no log syslog
```

#### Parameters

no

Negate a command or set its defaults

log

Configure logging sub-system

syslog

Logging via syslog



### 1.4.24 no log systemd-journal

#### Command

```
no log systemd-journal
```

#### Parameters

no

Negate a command or set its defaults

log

Configure logging sub-system

systemd-journal

Logging to systemd-journal

### 1.4.25 no service advanced-vty

#### Command

```
no service advanced-vty
```

#### Parameters

no

Negate a command or set its defaults

service

Set up miscellaneous service

advanced-vty

Enable advanced mode vty interface

### 1.4.26 no service terminal-length [<0-512>]

#### Command

```
no service terminal-length [<0-512>]
```

#### Parameters

no

Negate a command or set its defaults

service

Set up miscellaneous service

terminal-length

System wide terminal length configuration

[<0-512>]

Number of lines of VTY (0 means no line control)

---

### 1.4.27 no stats reporter log [NAME]

#### Command

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

#### Parameters

no

Negate a command or set its defaults

stats

Configure stats sub-system

reporter

Configure a stats reporter

log

Report to the logger

[NAME]

Name of the reporter

### 1.4.28 no stats reporter statsd [NAME]

#### Command

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

#### Parameters

no

Negate a command or set its defaults

stats

Configure stats sub-system

reporter

Configure a stats reporter

statsd

Report to a STATSD server

[NAME]

Name of the reporter

### 1.4.29 password (8|) WORD

#### Command

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

#### Parameters

##### password

Assign the terminal connection password

##### 8

Specifies a HIDDEN password will follow

##### dummy string

##### WORD

The HIDDEN line password string

### 1.4.30 password LINE

#### Command

```
password LINE
```

#### Parameters

##### password

Assign the terminal connection password

##### LINE

The UNENCRYPTED (cleartext) line password

### 1.4.31 service advanced-vty

#### Command

```
service advanced-vty
```

#### Parameters

##### service

Set up miscellaneous service

##### advanced-vty

Enable advanced mode vty interface

### 1.4.32 service terminal-length <0-512>

#### Command

```
service terminal-length <0-512>
```

#### Parameters

##### service

Set up miscellaneous service

##### terminal-length

System wide terminal length configuration

##### <0-512>

Number of lines of VTY (0 means no line control)

### 1.4.33 show history

#### Command

```
show history
```

#### Parameters

##### show

Show running system information

##### history

Display the session command history

### 1.4.34 stats interval <0-65535>

#### Command

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

#### Parameters

##### stats

Configure stats sub-system

##### interval

Set the reporting interval

##### <0-65535>

Interval in seconds (0 disables the reporting interval)

---

### 1.4.35 stats reporter log [NAME]

#### Command

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

#### Parameters

stats

Configure stats sub-system

reporter

Configure a stats reporter

log

Report to the logger

[NAME]

Name of the reporter

### 1.4.36 stats reporter statsd [NAME]

#### Command

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

#### Parameters

stats

Configure stats sub-system

reporter

Configure a stats reporter

statsd

Report to a STATSD server

[NAME]

Name of the reporter

### 1.4.37 stats-tcp batch-size <1-65535>

#### Command

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

#### Parameters

stats-tcp

Configure stats sub-system

batch-size

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

<1-65535>

Number of sockets per interval

### 1.4.38 stats-tcp interval <0-65535>

#### Command

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

#### Parameters

##### stats-tcp

Configure stats sub-system

##### interval

Set the tcp socket stats polling interval

##### <0-65535>

Interval in seconds (0 disables the polling interval)

## 1.5 config-log

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

### 1.5.1 logging color (0|1)

#### Command

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

#### Parameters

##### logging

Configure logging

##### color

Configure color-printing for log messages

##### 0

Don't use color for printing messages

##### 1

Use color for printing messages

---

### 1.5.2 logging filter all (0|1)

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

#### Command

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

#### Parameters

##### logging

Configure logging

##### filter

Filter log messages

##### all

Do you want to log all messages?

##### 0

Only print messages matched by other filters

##### 1

Bypass filter and print all messages

### 1.5.3 logging level (lglobal|llapd|linp|lmux|lmi|lmib|lsms|lctrl|lgtp|lstats|lgsup|loa...

#### Command

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

#### Parameters

##### logging

Configure logging

##### level

Set the log level for a specified category

##### lglobal

Library-internal global log family

##### llapd

LAPD in libosmogsm

##### linp

A-bis Input Subsystem

---

lmux  
A-bis B-Subchannel TRAU Frame Multiplex

lmi  
A-bis Input Driver for Signalling

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

lsms  
Layer3 Short Message Service (SMS)

lctrl  
Control Interface

lgtp  
GPRS GTP library

lstats  
Statistics messages and logging

lgsup  
Generic Subscriber Update Protocol

loap  
Osmocom Authentication Protocol

lss7  
libosmo-sigtran Signalling System 7

lsccp  
libosmo-sigtran SCCP Implementation

lsua  
libosmo-sigtran SCCP User Adaptation

lm3ua  
libosmo-sigtran MTP3 User Adaptation

lmgcp  
libosmo-mgcp Media Gateway Control Protocol

ljibuf  
libosmo-netif Jitter Buffer

lrspro  
Remote SIM protocol

lns  
GPRS NS layer

lbssgp  
GPRS BSSGP layer

lndata  
GPRS NS layer data PDU

---



**Inssignal**

GPRS NS layer signal PDU

**liuup**

Iu UP layer

**lpfcp**

libosmo-pfcp Packet Forwarding Control Protocol

**lcsn1**

libosmo-csn1 Concrete Syntax Notation 1 codec

**lio**

libosmocore IO Subsystem

**debug**

Log debug messages and higher levels

**info**

Log informational messages and higher levels

**notice**

Log noticeable messages and higher levels

**error**

Log error messages and higher levels

**fatal**

Log only fatal messages

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

**Command**

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

**Parameters****logging**

Configure logging

**level**

Set the log level for a specified category

**force-all**

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

**debug**

Log debug messages and higher levels

**info**

Log informational messages and higher levels

notice

Log noticeable messages and higher levels

error

Log error messages and higher levels

fatal

Log only fatal messages

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

Command

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

Parameters

logging

Configure logging

level

Set the log level for a specified category

set-all

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

debug

Log debug messages and higher levels

info

Log informational messages and higher levels

notice

Log noticeable messages and higher levels

error

Log error messages and higher levels

fatal

Log only fatal messages

### 1.5.6 logging print category (0|1)

Command

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

Parameters

logging

Configure logging

print  
    Log output settings

category  
    Configure log message

0  
    Don't prefix each log message

1  
    Prefix each log message with category/subsystem name

### 1.5.7 logging print category-hex (0|1)

Command

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

Parameters

logging  
    Configure logging

print  
    Log output settings

category-hex  
    Configure log message

0  
    Don't prefix each log message

1  
    Prefix each log message with category/subsystem nr in hex ('<000b>')

### 1.5.8 logging print extended-timestamp (0|1)

Command

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

Parameters

logging  
    Configure logging

print  
    Log output settings

extended-timestamp  
    Configure log message timestamping

0  
    Don't prefix each log message

1  
    Prefix each log message with current timestamp with YYYYMMDDhhmmssnnn

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

#### Command

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

#### Parameters

##### logging

Configure logging

##### print

Log output settings

##### file

Configure log message

##### 0

Don't prefix each log message

##### 1

Prefix each log message with the source file and line

##### basename

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

##### [last]

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

### 1.5.10 logging print level (0|1)

#### Command

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

#### Parameters

##### logging

Configure logging

##### print

Log output settings

##### level

Configure log message

##### 0

Don't prefix each log message

##### 1

Prefix each log message with the log level name

### 1.5.11 logging print thread-id (0|1)

#### Command

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

#### Parameters

##### logging

Configure logging

##### print

Log output settings

##### thread-id

Configure log message logging Thread ID

0

Don't prefix each log message

1

Prefix each log message with current Thread ID

### 1.5.12 logging timestamp (0|1)

#### Command

```
logging timestamp (0|1)
```

#### Parameters

##### logging

Configure logging

##### timestamp

Configure log message timestamping

0

Don't prefix each log message

1

Prefix each log message with current timestamp

### 1.5.13 no logging level force-all

#### Command

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

#### Parameters

---

no

Negate a command or set its defaults

logging

Configure logging

level

Set the log level for a specified category

force-all

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

## 1.6 config-stats

### 1.6.1 disable

Command

```
disable
```

Parameters

disable

Disable the reporter

### 1.6.2 enable

Command

```
enable
```

Parameters

enable

Enable the reporter

### 1.6.3 flush-period <0-65535>

Command

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

Parameters

flush-period

Configure stats sub-system

<0-65535>

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

### 1.6.4 level (global|peer|subscriber)

#### Command

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

#### Parameters

##### level

Set the maximum group level

##### global

Report global groups only

##### peer

Report global and network peer related groups

##### subscriber

Report global, peer, and subscriber groups

### 1.6.5 local-ip ADDR

#### Command

```
local-ip ADDR
```

#### Parameters

##### local-ip

Set the IP address to which we bind locally

##### ADDR

IP Address

### 1.6.6 mtu <100-65535>

#### Command

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

#### Parameters

##### mtu

Set the maximum packet size

##### <100-65535>

Size in byte

---

### 1.6.7 no local-ip

#### Command

```
no local-ip
```

#### Parameters

no

Negate a command or set its defaults

local-ip

Set the IP address to which we bind locally

### 1.6.8 no mtu

#### Command

```
no mtu
```

#### Parameters

no

Negate a command or set its defaults

mtu

Set the maximum packet size

### 1.6.9 no prefix

#### Command

```
no prefix
```

#### Parameters

no

Negate a command or set its defaults

prefix

Set the item name prefix

### 1.6.10 prefix PREFIX

#### Command

```
prefix PREFIX
```

#### Parameters

prefix

Set the item name prefix

PREFIX

The prefix string

---



### 1.6.11 remote-ip ADDR

#### Command

```
remote-ip ADDR
```

#### Parameters

##### remote-ip

Set the remote IP address to which we connect

##### ADDR

IP Address

### 1.6.12 remote-port <1-65535>

#### Command

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

#### Parameters

##### remote-port

Set the remote port to which we connect

##### <1-65535>

Remote port number

## 1.7 config-line

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

#### Command

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

#### Parameters

##### bind

Accept VTY telnet connections on local interface

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

Local interface IP address (default: 127.0.0.1)

##### [<0-65535>]

Local TCP port number

---

### 1.7.2 login

#### Command

```
login
```

#### Parameters

login

Enable password checking

### 1.7.3 no login

#### Command

```
no login
```

#### Parameters

no

Negate a command or set its defaults

login

Enable password checking

## 1.8 config-cs7

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

#### Command

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

#### Global attributes

Flag: !

This command applies immediately

#### Parameters

as

Configure an Application Server

NAME

Name of the Application Server

sua

SCCP User Adaptation

m3ua

MTP3 User Adaptation

ipa

IPA Multiplex (SCCP Lite)

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

#### Command

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

#### Global attributes

Flag: @

This command applies on VTY node exit

#### Parameters

asp

Configure Application Server Process

NAME

Name of ASP

<0-65535>

Remote port number

<0-65535>

Local port number

sua

SCCP User Adaptation

m3ua

MTP3 User Adaptation

ipa

IPA Multiplex (SCCP Lite)

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

#### Command

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

#### Global attributes

Flag: @

This command applies on VTY node exit

#### Parameters

asp

Configure Application Server Process

NAME

Name of ASP

<0-65535>

Remote port number

<0-65535>

Local port number

sua

SCCP User Adaptation

m3ua

MTP3 User Adaptation

ipa

IPA Multiplex (SCCP Lite)

sctp

SCTP (Stream Control Transmission Protocol)

tcp

TCP (Transmission Control Protocol)

#### 1.8.4 description .TEXT

Command

```
description .TEXT
```

Parameters

description

Save human-readable description of the object

.TEXT

Text until the end of the line

#### 1.8.5 listen (sua|m3ua|ipa) <0-65534> [(sctp|tcp)]

Command

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

Global attributes

Flag: !

This command applies immediately

Parameters

listen

Configure/Enable xUA Listener

sua

SCCP User Adaptation

m3ua

MTP3 User Adaptation

ipa

IPA Multiplex (SCCP Lite)

<0-65534>

Port number

[sctp]

SCTP (Stream Control Transmission Protocol)

[tcp]

TCP (Transmission Control Protocol)

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

Command

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

Global attributes

Flag: !

This command applies immediately

Parameters

network-indicator

Configure the Network Indicator

international

International Network

national

National Network

reserved

Reserved Network

spare

Spare Network

### 1.8.7 no as NAME

#### Command

```
no as NAME
```

#### Global attributes

Flag: !

This command applies immediately

#### Parameters

no

Negate a command or set its defaults

as

Disable Application Server

NAME

Name of AS

### 1.8.8 no asp NAME

#### Command

```
no asp NAME
```

#### Global attributes

Flag: !

This command applies immediately

#### Parameters

no

Negate a command or set its defaults

asp

Disable Application Server Process

NAME

Name of ASP

### 1.8.9 no listen (sua|m3ua|ipa) <0-65534> [(sctp|tcp)]

#### Command

```
no listen (sua|m3ua|ipa) <0-65534> [(sctp|tcp)]
```

#### Global attributes

#### Flag: !

This command applies immediately

#### Parameters

##### no

Negate a command or set its defaults

##### listen

Disable xUA Listener on given port

##### sua

SCCP User Adaptation

##### m3ua

MTP3 User Adaptation

##### ipa

IPA Multiplex (SCCP Lite)

##### <0-65534>

Port number

##### [sctp]

SCTP (Stream Control Transmission Protocol)

##### [tcp]

TCP (Transmission Control Protocol)

### 1.8.10 no sccp-address NAME

#### Command

```
no sccp-address NAME
```

#### Global attributes

#### Flag: !

This command applies immediately

#### Parameters

##### no

Negate a command or set its defaults

##### sccp-address

Delete an SCCP addressbook entry

##### NAME

Name of the SCCP Address

### 1.8.11 point-code POINT\_CODE

#### Command

```
point-code POINT_CODE
```

#### Global attributes

Flag: !

This command applies immediately

#### Parameters

point-code

Configure the local Point Code

POINT\_CODE

Point Code

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

#### Command

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

#### Global attributes

Flag: !

This command applies immediately

#### Parameters

point-code

Point Code

delimiter

Configure Point Code Delimiter

default

Use dot as delimiter

dash

User dash as delimiter



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

#### Command

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

#### Global attributes

Flag: !

This command applies immediately

#### Parameters

point-code

Point Code

format

Configure Point Code Format

<1-24>

Length of first PC component

[<1-23>]

Length of second PC component

[<1-22>]

Length of third PC component

### 1.8.14 point-code format default

#### Command

```
point-code format default
```

#### Global attributes

Flag: !

This command applies immediately

#### Parameters

point-code

Point Code

format

Configure Point Code Format

default

Default Point Code Format (3.8.3)

### 1.8.15 route-table system

#### Command

```
route-table system
```

#### Global attributes

Flag: !

This command applies immediately

#### Parameters

route-table

Specify the name of the route table

system

Name of the route table

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

#### Command

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

#### Global attributes

Flag: !

This command applies immediately

#### Parameters

sccp

Configure SCCP behavior

max-optional-data

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

<0-999999>

Set a non-standard maximum allowed number of bytes

standard

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

---

### 1.8.17 sccp-address NAME

Command

```
sccp-address NAME
```

Global attributes

Flag: !

This command applies immediately

Parameters

sccp-address

Create/Modify an SCCP addressbook entry

NAME

Name of the SCCP Address

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

Command

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

Global attributes

Flag: !

This command applies immediately

Parameters

sccp-timer

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

conn\_est

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

ias

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

iar

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

rel

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

repeat\_rel

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

int

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

guard

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

reset

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

reassembly

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

<1-999999>

Timer value, in seconds

### 1.8.19 secondary-pc POINT\_CODE

Command

```
secondary-pc POINT_CODE
```

Global attributes

Flag: !

This command applies immediately

Parameters

secondary-pc

Configure the local Secondary Point Code

POINT\_CODE

Point Code

### 1.8.20 sls-opc-dpc [opc-shift] [<0-8>] [dpc-shift] [<0-8>]

Command

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

Global attributes

Flag: !

This command applies immediately

Parameters

---

**sls-opc-dpc**

Shift OPC and DPC bits used during routing decision

**[opc-shift]**

Shift OPC bits used during routing decision

**[<0-8>]**

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

**[dpc-shift]**

Shift DPC bits used during routing decision

**[<0-8>]**

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

### 1.8.21 **sls-shift <0-6>**

**Command**

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

**Global attributes**

Flag: !

This command applies immediately

**Parameters****sls-shift**

Shift SLS bits used during routing decision

**<0-6>**

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

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

**Command**

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

**Global attributes**

Flag: !

This command applies immediately

**Parameters****xua**

SIGTRAN xxxUA related

rkm

Routing Key Management

routing-key-allocation

Routing Key Management Allocation Policy

static-only

Only static (pre-configured) Routing Keys permitted

dynamic-permitted

Dynamically allocate Routing Keys for what ASPs request

## 1.9 config-cs7-as

### 1.9.1 asp NAME

Command

```
asp NAME
```

Global attributes

Flag: !

This command applies immediately

Parameters

asp

Specify that a given ASP is part of this AS

NAME

Name of ASP to be added to AS

### 1.9.2 description .TEXT

Command

```
description .TEXT
```

Parameters

description

Save human-readable description of the object

.TEXT

Text until the end of the line

### 1.9.3 no asp NAME

#### Command

```
no asp NAME
```

#### Global attributes

Flag: !

This command applies immediately

#### Parameters

no

Negate a command or set its defaults

asp

Specify ASP to be removed from this AS

NAME

Name of ASP to be removed

### 1.9.4 no traffic-mode

#### Command

```
no traffic-mode
```

#### Parameters

no

Negate a command or set its defaults

traffic-mode

Remove explicit traffic mode of operation of this AS

### 1.9.5 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

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

### Command

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

### Global attributes

#### Flag: !

This command applies immediately

### Parameters

#### point-code

Point Code Specific Features

#### override

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

#### patch-sccp

Patch point code values into SCCP called/calling address

#### disabled

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

#### both

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

## 1.9.7 qos-class <0-7>

### Command

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

### Global attributes

#### Flag: !

This command applies immediately

### Parameters

#### qos-class

Specity QoS Class of AS

#### <0-7>

QoS Class



### 1.9.8 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

### 1.9.9 routing-key RCONTEXT DPC

#### Command

```
routing-key RCONTEXT DPC
```

#### Global attributes

Flag: !

This command applies immediately

#### Parameters

routing-key

Define a routing key

RCONTEXT

Routing context number

DPC

Destination Point Code

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

#### Command

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

#### Global attributes

---

Flag: !

This command applies immediately

#### Parameters

routing-key

Define a routing key

RCONTEXT

Routing context number

DPC

Destination Point Code

si

Match on Service Indicator

aal2

ATM Adaption Layer 2

bicc

Bearer Independent Call Control

b-isup

Broadband ISDN User Part

h248

H.248

isup

ISDN User Part

sat-isup

Sattelite ISDN User Part

sccp

Signalling Connection Control Part

tup

Telephony User Part

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

#### Command

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

#### Global attributes

Flag: !

This command applies immediately

#### Parameters

---

routing-key

Define a routing key

RCONTEXT

Routing context number

DPC

Destination Point Code

si

Match on Service Indicator

aal2

ATM Adaption Layer 2

bicc

Bearer Independent Call Control

b-isup

Broadband ISDN User Part

h248

H.248

isup

ISDN User Part

sat-isup

Sattelite ISDN User Part

sccp

Signalling Connection Control Part

tup

Telephony User Part

ssn

Match on Sub-System Number

SSN

Sub-System Number to match on

### 1.9.12 routing-key RCONTEXT DPC ssn SSN

Command

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

Global attributes

Flag: !

This command applies immediately

Parameters

routing-key

Define a routing key

RCONTEXT

Routing context number

DPC

Destination Point Code

ssn

Match on Sub-System Number

SSN

Sub-System Number to match on

### 1.9.13 sls-shift <0-3>

Command

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

Global attributes

Flag: !

This command applies immediately

Parameters

sls-shift

Shift SLS bits used during routing decision

<0-3>

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

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

Command

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

Parameters

traffic-mode

Specifies traffic mode of operation of the ASP within the AS

broadcast

Broadcast to all ASP within AS

roundrobin

Round-Robin between all ASP within AS

override

Override

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

#### Command

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

#### Parameters

##### traffic-mode

Specifies traffic mode of operation of the ASP within the AS

##### loadshare

Share Load among all ASP within AS

##### [bindings]

Configure Loadshare parameters

##### [sls]

Configure Loadshare SLS generation parameters

##### [opc-sls]

Generate extended SLS with OPC information

##### [opc-shift]

Shift OPC bits used during routing decision

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

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

## 1.10 config-cs7-asp

### 1.10.1 block

#### Command

```
block
```

#### Global attributes

##### Flag: @

This command applies on VTY node exit

#### Parameters

##### block

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

### 1.10.2 description .TEXT

#### Command

```
description .TEXT
```

#### Parameters

##### description

Save human-readable description of the object

##### .TEXT

Text until the end of the line

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

#### Command

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

#### Global attributes

##### Flag: @

This command applies on VTY node exit

#### Parameters

##### local-ip

Specify Local IP Address from which to contact ASP

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

Local IPv4 Address from which to contact of ASP

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

Local IPv6 Address from which to contact of ASP

##### [primary]

Signal the SCTP peer to use this address as Primary Address

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

#### Command

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

#### Global attributes

##### Flag: @

This command applies on VTY node exit

---

#### Parameters

no

Negate a command or set its defaults

local-ip

Specify Local IP Address from which to contact ASP

A.B.C.D

Local IPv4 Address from which to contact of ASP

X:X::X:X

Local IPv6 Address from which to contact of ASP

### 1.10.5 no quirk (no\_notify|daud\_in\_asp|snm\_inactive)

#### Command

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

#### Global attributes

Flag: !

This command applies immediately

#### Parameters

no

Negate a command or set its defaults

quirk

Disable quirk to work around interop issues

no\_notify

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

daud\_in\_asp

Allow Rx of DAUD in ASP role

snm\_inactive

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

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

#### Command

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

#### Global attributes

Flag: @

This command applies on VTY node exit

---

#### Parameters

no

Negate a command or set its defaults

remote-ip

Specify Remote IP Address of ASP

A.B.C.D

Remote IPv4 Address of ASP

X:X::X:X

Remote IPv6 Address of ASP

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

#### Command

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

#### Global attributes

Flag: @

This command applies on VTY node exit

#### Parameters

no

Negate a command or set its defaults

sctp-param

Configure SCTP parameters

init

Configure INIT related parameters

num-ostreams

Configure INIT Number of Outbound Streams

max-instreams

Configure INIT Maximum Inboud Streams

max-attempts

Configure INIT Maximum Attempts

timeout

Configure INIT Timeout (milliseconds)

---



### 1.10.8 qos-class <0-7>

#### Command

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

#### Global attributes

Flag: @

This command applies on VTY node exit

#### Parameters

qos-class

Specify QoS Class of ASP

<0-7>

QoS Class

### 1.10.9 quirk (no\_notify|daud\_in\_asp|snm\_inactive)

#### Command

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

#### Global attributes

Flag: !

This command applies immediately

#### Parameters

quirk

Enable quirk to work around interop issues

no\_notify

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

daud\_in\_asp

Allow Rx of DAUD in ASP role

snm\_inactive

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

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

#### Command

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

#### Global attributes

Flag: @

This command applies on VTY node exit

#### Parameters

remote-ip

Specify Remote IP Address of ASP

A.B.C.D

Remote IPv4 Address of ASP

X:X::X:X

Remote IPv6 Address of ASP

[primary]

Set remote address as SCTP Primary Address

### 1.10.11 role (sg|asp|ipsp)

#### Command

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

#### Global attributes

Flag: @

This command applies on VTY node exit

#### Parameters

role

Specify the xUA role for this ASP

sg

SG (Signaling Gateway)

asp

ASP (Application Server Process)

ipsp

IPSP (IP Signalling Point)

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

#### Command

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

#### Global attributes

Flag: @

This command applies on VTY node exit

#### Parameters

sctp-param

Configure SCTP parameters

init

Configure INIT related parameters

num-ostreams

Configure INIT Number of Outbound Streams

max-instreams

Configure INIT Maximum Inboud Streams

max-attempts

Configure INIT Maximum Attempts

timeout

Configure INIT Timeout (milliseconds)

<0-65535>

Value of the parameter

### 1.10.13 shutdown

#### Command

```
shutdown
```

#### Global attributes

Flag: @

This command applies on VTY node exit

#### Parameters

shutdown

Terminates SCTP association; New associations will be rejected

### 1.10.14 timer lm (wait\_asp\_up|wait\_notify|wait\_notify\_rkm|wait\_rk\_reg\_resp) <1-999999>

#### Command

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

#### Global attributes

Flag: !

This command applies immediately

#### Parameters

timer

Configure ASP default timer values

lm

Configure ASP default lm timer values

wait\_asp\_up

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

wait\_notify

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

wait\_notify\_rkm

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

wait\_rk\_reg\_resp

Restart ASP after timeout waiting for RK\_REG\_RESP (s) (default: 10)

<1-999999>

Timer value, in seconds

### 1.10.15 transport-role (client|server)

#### Command

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

#### Global attributes

Flag: @

This command applies on VTY node exit

#### Parameters

transport-role

Specify the transport layer role for this ASP

client

Operate as a client; connect to a server

server

Operate as a server; wait for client connections

## 1.11 config-cs7-listen

### 1.11.1 accept-asp-connections (pre-configured|dynamic-permitted)

#### Command

```
accept-asp-connections (pre-configured|dynamic-permitted)
```

#### Global attributes

Flag: !

This command applies immediately

#### Parameters

accept-asp-connections

Define what kind of ASP connections to accept

pre-configured

Accept only pre-configured ASPs (source IP/port)

dynamic-permitted

Accept any connection and dynamically create an ASP definition

### 1.11.2 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 immediately

#### Parameters

local-ip

Configure the Local IP Address for xUA

A.B.C.D

IPv4 Address to use for XUA

X:X::X:X

IPv6 Address to use for XUA

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

#### Command

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

#### Global attributes

Flag: @

This command applies on VTY node exit

#### Parameters

no

Negate a command or set its defaults

local-ip

Configure the Local IP Address for xUA

A.B.C.D

IPv4 Address to use for XUA

X:X::X:X

IPv6 Address to use for XUA

### 1.11.4 no sctp-param init (num-ostreams|max-instreams)

#### Command

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

#### Global attributes

Flag: @

This command applies on VTY node exit

#### Parameters

no

Negate a command or set its defaults

sctp-param

Configure SCTP parameters

init

Configure INIT related parameters

num-ostreams

Configure INIT Number of Outbound Streams

max-instreams

Configure INIT Maximum Inboud Streams

---

### 1.11.5 sctp-param init (num-ostreams|max-instreams) <0-65535>

#### Command

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

#### Global attributes

Flag: @

This command applies on VTY node exit

#### Parameters

sctp-param

Configure SCTP parameters

init

Configure INIT related parameters

num-ostreams

Configure INIT Number of Outbound Streams

max-instreams

Configure INIT Maximum Inboud Streams

<0-65535>

Value of the parameter

## 1.12 config-cs7-rt

### 1.12.1 description .TEXT

#### Command

```
description .TEXT
```

#### Parameters

description

Save human-readable description of the object

.TEXT

Text until the end of the line

### 1.12.2 remove route POINT\_CODE MASK

#### Command

```
remove route POINT_CODE MASK
```

#### Global attributes

Flag: !

This command applies immediately

#### Parameters

remove

Remove a Route

route

Remove a Route

POINT\_CODE

Destination Point Code

MASK

Point Code Mask

### 1.12.3 update route POINT\_CODE MASK linkset LS\_NAME [priority] [( <1-9>|default)] [qos-c...

#### Command

```
update route POINT_CODE MASK linkset LS_NAME [priority] [( <1-9>|default)] [qos-class] ↔  
[ ( <0-7>|default) ]
```

#### Global attributes

Flag: !

This command applies immediately

#### Parameters

update

Update the Route

route

Update the Route

POINT\_CODE

Destination Point Code

MASK

Point Code Mask



linkset

Specify Destination Linkset

LS\_NAME

Linkset Name

[priority]

Specify Priority

[<1-9>]

Priority

[default]

Default Priority (5)

[qos-class]

Specify QoS Class

[<0-7>]

QoS Class

[default]

Default QoS Class (0)

## 1.13 config-cs7-sccpaddr

### 1.13.1 global-title

Command

```
global-title
```

Global attributes

Flag: !

This command applies immediately

Parameters

global-title

Add/Modify Global Title

### 1.13.2 no global-title

Command

```
no global-title
```

Global attributes

---

Flag: !

This command applies immediately

Parameters

no

Negate a command or set its defaults

global-title

Remove Global Title

### 1.13.3 no point-code

Command

```
no point-code
```

Global attributes

Flag: !

This command applies immediately

Parameters

no

Negate a command or set its defaults

point-code

Remove point-code Number

### 1.13.4 no subsystem-number

Command

```
no subsystem-number
```

Global attributes

Flag: !

This command applies immediately

Parameters

no

Negate a command or set its defaults

subsystem-number

Remove Subsystem Number

### 1.13.5 point-code POINT\_CODE

#### Command

```
point-code POINT_CODE
```

#### Global attributes

Flag: !

This command applies immediately

#### Parameters

point-code

Add point-code Number

POINT\_CODE

PC

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

#### Command

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

#### Global attributes

Flag: !

This command applies immediately

#### Parameters

routing-indicator

Add Routing Indicator

GT

by global-title

PC

by point-code

IP

by ip-address

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

#### Command

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

#### Global attributes

Flag: !

This command applies immediately

#### Parameters

subsystem-number

Add Subsystem Number

<0-4294967295>

SSN

## 1.14 config-cs7-sccpaddr-gt

### 1.14.1 digits DIGITS

#### Command

```
digits DIGITS
```

#### Global attributes

Flag: !

This command applies immediately

#### Parameters

digits

Set Global Title Digits

DIGITS

Number digits

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

#### Command

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

#### Global attributes

---

Flag: !

This command applies immediately

Parameters

global-title-indicator

Set Global Title Indicator

<0-15>

GTI

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

Command

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

Global attributes

Flag: !

This command applies immediately

Parameters

nature-of-address-indicator

Set Global Title Nature of Address Indicator

<0-127>

NAI

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

Command

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

Global attributes

Flag: !

This command applies immediately

Parameters

numbering-plan-indicator

Set Global Title Numbering Plan Indicator

<0-15>

NPI

### 1.14.5 translation-type <0-255>

#### Command

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

#### Global attributes

Flag: !

This command applies immediately

#### Parameters

translation-type

Set Global Title Translation Type

<0-255>

TT

## 1.15 config-cpu-sched

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

#### Command

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

#### Global attributes

Flag: !

This command applies immediately

#### Parameters

cpu-affinity

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

self

Set CPU affinity mask on thread running the VTY

all

Set CPU affinity mask on all process' threads

<0-4294967295>

Set CPU affinity mask on a thread with specified PID

THREADNAME

Set CPU affinity mask on a thread with specified thread name

CPUHEXMASK

CPU affinity mask

[delay]

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

### 1.15.2 **policy rr <1-32>**

#### Command

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

#### Global attributes

#### Flag: !

This command applies immediately

#### Parameters

#### policy

Set the scheduling policy to use for the process

#### rr

Use the SCHED\_RR real-time scheduling algorithm

#### <1-32>

Set the SCHED\_RR real-time priority

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