



StreetWAVE™ CLI User Guide

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Revision History

SI No	Date	Chapter	Description	Version
1	24 Oct. 16	Utils (Reset)	The list of files that will be affected when reset is added	5.1.0
2	3 July 2017	All	Added apps/features as per 4.1	5.6.0
3	8 Sept 2017	All	Corrected CLI commands and tree-structures (multiple changes)	5.8.0
4	9 th Dec 2017	All	Updated IPV6App parameters	5.9.2

Preface

This guide contains the Command-Line Interface (CLI) commands to configure and/or maintain StreetWAVE™.

Objective

This user Guide describes how to use StreetWAVE™ CLI commands to configure, maintain and/or manage the RSU.

Audience

The Savari RSU CLI user Guide is intended for users who configure and maintain Savari RSU.

Organization

The chapters in this user guide are organised as follows

Chapter	Description
Getting started	This chapter explains the information required to use StreetWAVE™ and also explains the procedure to log in to the system.
Command-Line Interface	This chapter describes the organization of CLI commands.
CLI Reference	This chapter explains the function of all the CLI commands.

Obtaining Documentation

Additional documentation is available at <ftp.savarinetworks.com>

Getting Started

This chapter explains the pre-requisites and the method to log in.

Pre-requisites to log in:

Information like username and password is required. Refer the RSU User Guide for the user name and password.

Logging in

Follow the following procedure to login

1. Initiate a connection with ssh
 - a. The system will prompt you for a username
2. Enter username
 - a. The system will prompt you for a password
3. Enter password
 - a. On the CLI you will see ">>"
 - b. You have successfully logged in

Command-Line Interface

This chapter contains the following topics:

[Introduction to CLI](#)

[Organisation of CLI commands](#)

[Getting Help](#)

[Authorization and Command level](#)

Introduction to CLI

The StreetWAVE™ CLI is a software interface used to access StreetWAVE™ through a secure shell (SSH).

This CLI provides commands to either configure, maintain, monitor or troubleshoot.

At any given time, there can be only two sessions of CLIs running.

Organisation of CLI commands

The CLI commands are grouped according to their type. Each level of hierarchy has sub levels according to the set of operations for a given function.

The explanation of the each CLI commands is under the heading Descriptions in the tables

Getting Help

There are two methods to get a list of commands available at each level,

press 'Shift+?' at the system prompt to get a list of commands with description.

Press tab to get a list of commands only (without description).

Authorization and Command level

StreetWAVE™ CLI has two modes

User mode and privileged mode:

When user login to RSU, he will be in user mode. In this mode, only a subset of configuration and commands are available to the user.

User can change from user mode to privilege mode by entering privilege mode command. In privilege mode, all CLI commands are available to the user, including the privileged commands.

Ways to work on CLI commands

There are two ways to work on the CLI commands.

Directly from CLI root: After the hostname you could type the sublevels to a function. To view the available options available at each level, refer [Getting Help](#)

CLI Prompt: 'hostname >> level 1 level 2 level 3....?'

Example: '>> config app store-repeat enable'

From sub level: At a sublevel, if you press 'Enter' you will be at the sublevel user mode. Where you can perform functions related to that specific sublevel.

After the CLI root type 'Exit' and press 'Enter' to you will be at the CLI root level again.

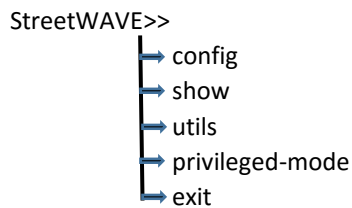
CLI Reference

This chapter explains all the CLIs, its function and application in RSU.

CLI command hierarchy

This section shows the level 1 CLIs of StreetWAVE™. After you have successfully logged-in, press 'Shift+?' you will see these level 1 CLIs. The sub-levels of each are explained in the subsequent sections.

The following map shows the level 1 CLIs of StreetWAVE™.



The following table explains the functions of level 1 CLIs of StreetWAVE™.

StreetWAVE>>	Option under StreetWAVE	Description
	config	Configuration Commands
	show	show configuration values
	utils	RSU utilities
	privileged-mode	Enable privileged mode
	exit	Exit form the Device

The following sections explain the CLIs and its sublevels of StreetWAVE.

[config](#)

[show](#)

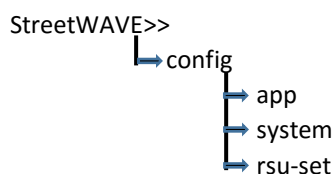
[utils](#)

[privileged-mode](#)

config

This section shows the sub-levels of config. These sub-levels house configuration CLI commands of StreetWAVE™

The following map shows the sublevels of config.



The following table explains the functions of available CLI commands for config.

StreetWAVE >>	Option under StreetWAVE	Description
	config	Configuration Commands
config	Option under config	Description
	app	Config applications
	system	System configurations
	rsu-set	set RSUsets Configuration

The two options 'review' and 'updateconf' are available under 'config'. The function of these two options is explained in the subsequent section.

review

The option 'review' can be used to view changes made to each option of an application individually or at the end after you have made all the changes on an application.

Example:

By typing the CLI prompt 'StreetWAVE >> config app store-repeat review' and Enter you can review the changes made to configure store-repeat. The unsaved changes are highlighted by an *.

updateconf

This option 'updateconf' saves changes made to application. The option 'updateconf' can be used after reviewing each option of an application or at the end after you have made all the changes to an application.

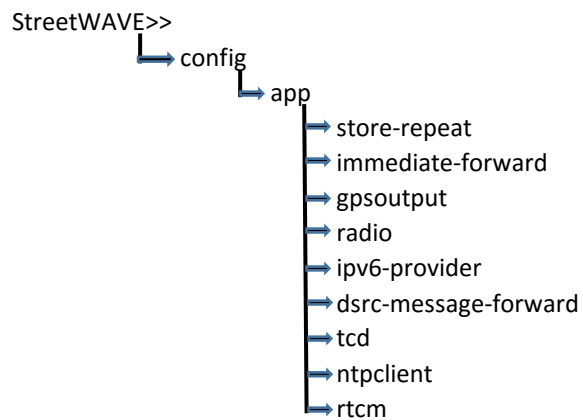
Example:

If the intended changes are correct, then the updateconf option is used to save changes made. The CLI prompt is 'StreetWAVE >> config app store-repeat updateconf' and Enter.

Configuring app

This section explains the CLI commands to configure applications of StreetWAVE™

The following map shows the sublevels of the application.



The following table explains the functions of the available CLI commands for app

config	Option under config	Description
	app	Config applications
app	Option under app	Description
	store-repeat	Set store-repeat configuration
	immediate-forward	Set immediate-forward configuration
	gpsoutput	Set Gpsoutput configuration
	radio	Set Radio configuration
	ipv6-provider	Set Ipv6-provider configuration
	dsrsrc-message-forward	Set dsrsrc-message-forward configuration
	tcd	Set tcd configuration
	ntpclient	Set ntpclient configuration
	rtcm	Set RTCM configuration

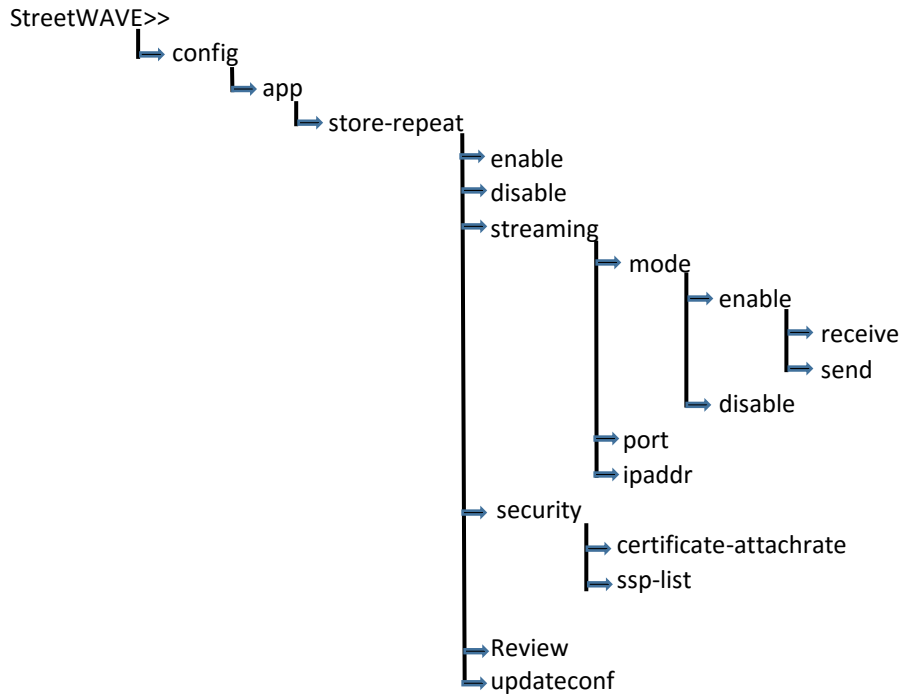
Configuring store-repeat

This section explains the CLI commands to configure store-repeat

CLI Prompt: 'hostname>> level 1 level 2 level 3....?'

Example: 'StreetWAVE >> config app store-repeat enable'

The following map shows the sublevels of the application store-repeat.



The following table explains the functions of the available CLI commands for store-repeat.

config	Option under config	Description
	app	Config applications
app	Option under app	Description
	store-repeat	Set store-repeat configuration
store-repeat	Options under store-repeat	Description
	enable	Enable the store-repeat application
	disable	Disable store-repeat application
	streaming	Set streaming mode, port and IP-address
	security	Set certificate-attachrate and ssp-list
	review	Display all modified values
	updateconf	Update config changes to default record

Streaming	Options under streaming	Description
	mode	UDP Streaming mode
	port	UDP Streaming port <1024..65535>
	ipaddr	IPv6 or IPv4 multicast/broadcast/unicast address to stream
Mode	Options under mode	Description
	enable	Enable store-repeat UDP streaming
	disable	Disable store-repeat UDP streaming
enable	Options under mode enable	Description
	receive	Enable the receiving of streamed store-repeat packets from Hub RSU
	send	Enable the sending of streamed store-repeat packets to the Spoke RSUs
security	Options under security	Description
	certificate-attachrate	Certificate attach interval in milliseconds <100..5000>
	ssp-list	Set SSP(Service Specific Permission) to sign TIM pkt. Seperated By colon(:), for example 01:FF:FF. Type NULL to set no value.

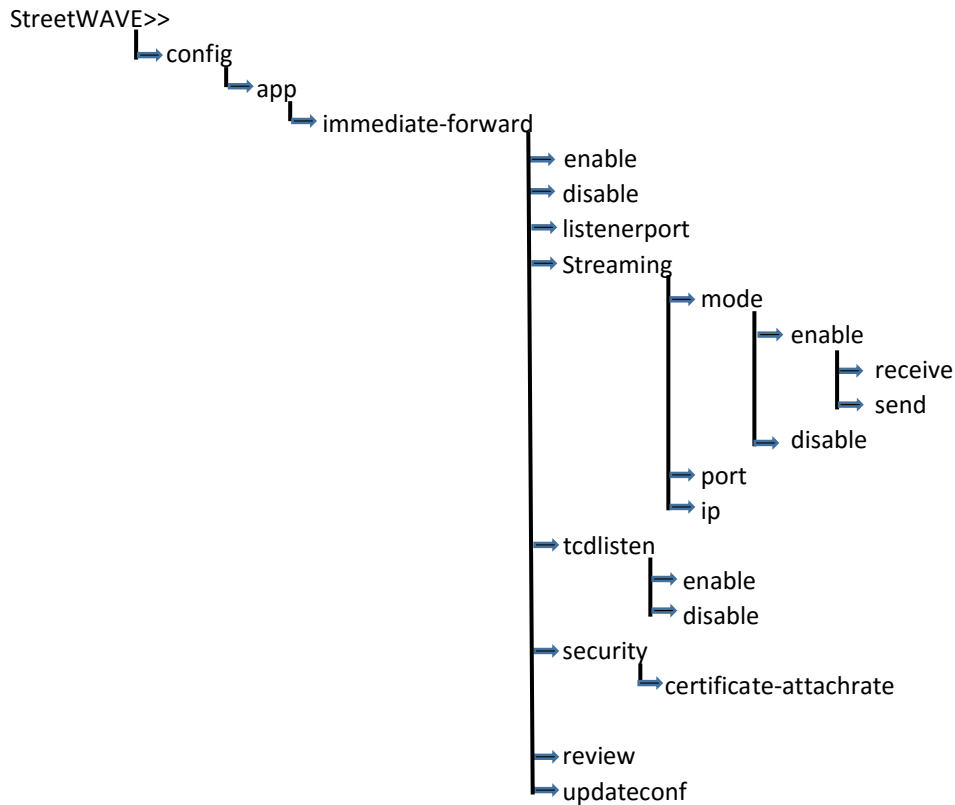
Configuring immediate-forward

This section explains the CLI commands to configure immediate-forward.

CLI Prompt: 'hostname>> level 1 level 2 level 3....?'

Example: 'StreetWAVE >> config app immediate-forward enable'

The following map shows the sublevels of the application immediate-forward.



The following table explains the functions of the available CLI commands for immediate-forward.

config	Options under config	Description
	app	Config applications
app	Options under app	Description
	immediate-forward	Set immediate-forward Configuration
immediate-forward	Options under immediate-forward	Description
	enable	Enable the immediate-forward application
	disable	Disable the immediate-forward application
	listenerport	UDP Listener Port Value Min:0 Max:65535
	Streaming	Set streaming mode, port and IP-address
	tcclisten	Enable Listen to the TCd socket for incoming msgs

	security	Security settings
	review	Review changes done to immediate-forward
	Updateconf	Update config changes to default record
streaming	Options under streaming	Description
	mode	UDP Streaming mode
	port	UDP Streaming Port Value <1024..65535>
	ip	IPv6 or IPv4 multicast/broadcast/unicast address to stream
mode	Options under mode	Description
	enable	Enable WSMP UDP streaming
	disable	Disable inter RSU UDP streaming
enable	Options under mode enable	Description
	receive	Enable the receiving of streamed WSMP packets from Hub RSU
	send	Enable the sending of streamed WSMP packets to the Spoke RSUs
tcdlisten	Options under tcdlisten	Description
	enable	Enable Listen to the TC socket for incoming messages
	disable	Disable Listen to the TC socket for incoming messages
security	Options under security	Description
	certificate-attachrate	Certificate attach interval in millisecs <100..5000>

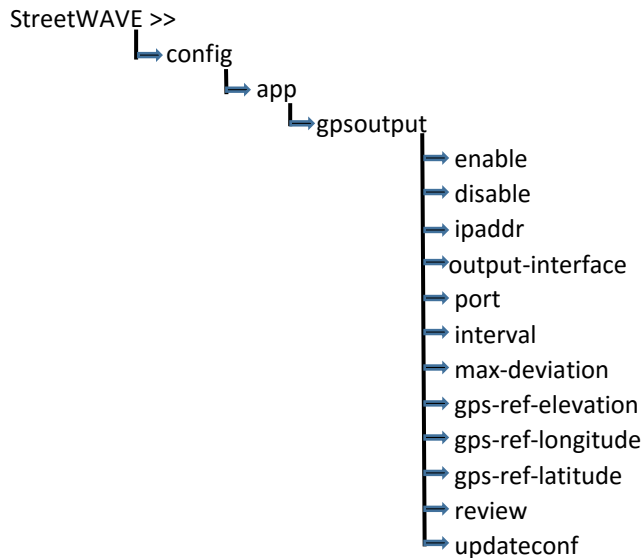
Configuring gpsoutput

This section explains the CLI commands to configure gpsoutput.

CLI Prompt: 'hostname>> level 1 level 2 level 3....?'

Example: 'StreetWAVE >> config app gpsoutput enable'

The following map shows the sublevels of the application gpsoutput.



The following table explains the sublevels of the application gpsoutput

config	Options under config	Description
	app	Config applications
app	Options under app	Description
	gpsoutput	Set Gpsoutput Configuration
gpsoutput	Options under gpsoutput	Description
	enable	Enable gpsoutput application
	disable	Disable gpsoutput application
	ipaddr	IPV6 or IPV4 multicast/broadcast/unicast address to stream
	output-interface	Set output-interface
	port	Set gpsoutput port <1024 - 65535>
	interval	Set interval at which to send the GPS GPGGA NMEA String to external Server in seconds <1 - 18000>
	max-deviation	Set maximum allowable deviation in meters

gps-ref-elevation	Set gps reference elevation
gps-ref-longitude	Set gps reference longitude
gps-ref-latitude	Set gps reference latitude
review	Display all modified values
updateconf	Update config parameters to default record

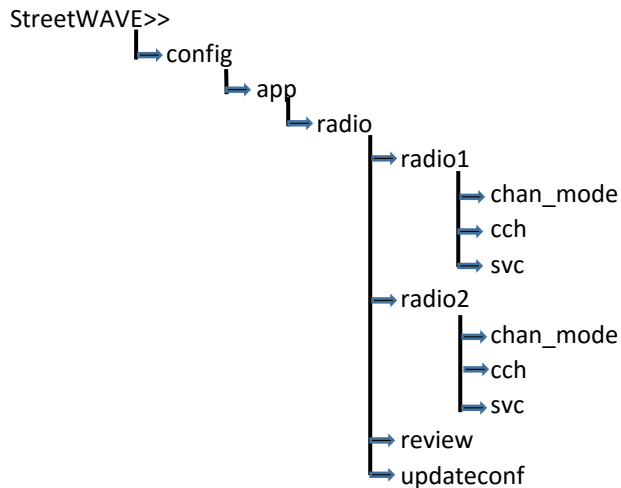
Configuring radio

This section explains the CLI commands to configure radio.

CLI Prompt: 'hostname>> level 1 level 2 level 3....?'

Example: 'StreetWAVE >> config app radio enable'

The following map shows the sublevels of the application radio.



The following table explains the sublevels of the application radio.

config	Option under config	Description
	app	Config applications
app	Option under app	Description
	radio	Set Radio Configuration
radio	Options under radio	Description
	radio1	Set radio1 channel mode <0 (continuous) - 1 (alternating)>
	radio2	Set radio2 channel mode <0 (continuous) - 1 (alternating)>
	review	Display all modified values
	updateconf	Update config changes to default record
radio1	Options under dsrc0	Description
	chan_mode	Set radio1 channel mode <0 (continuous) - 1 (alternating)>
	cch	Radio0 control channel <read only>
	svc	Set radio1 forced service channel <172 - 184 only even channels>

radio2

Options under dsrc1	Description
chan_mode	Set radio2 channel mode <0 (continuous) - 1 (alternating)>
cch	Radio1 Control Channel <read only>
svc	Set radio2 forced service channel <172 - 184 only even channels>

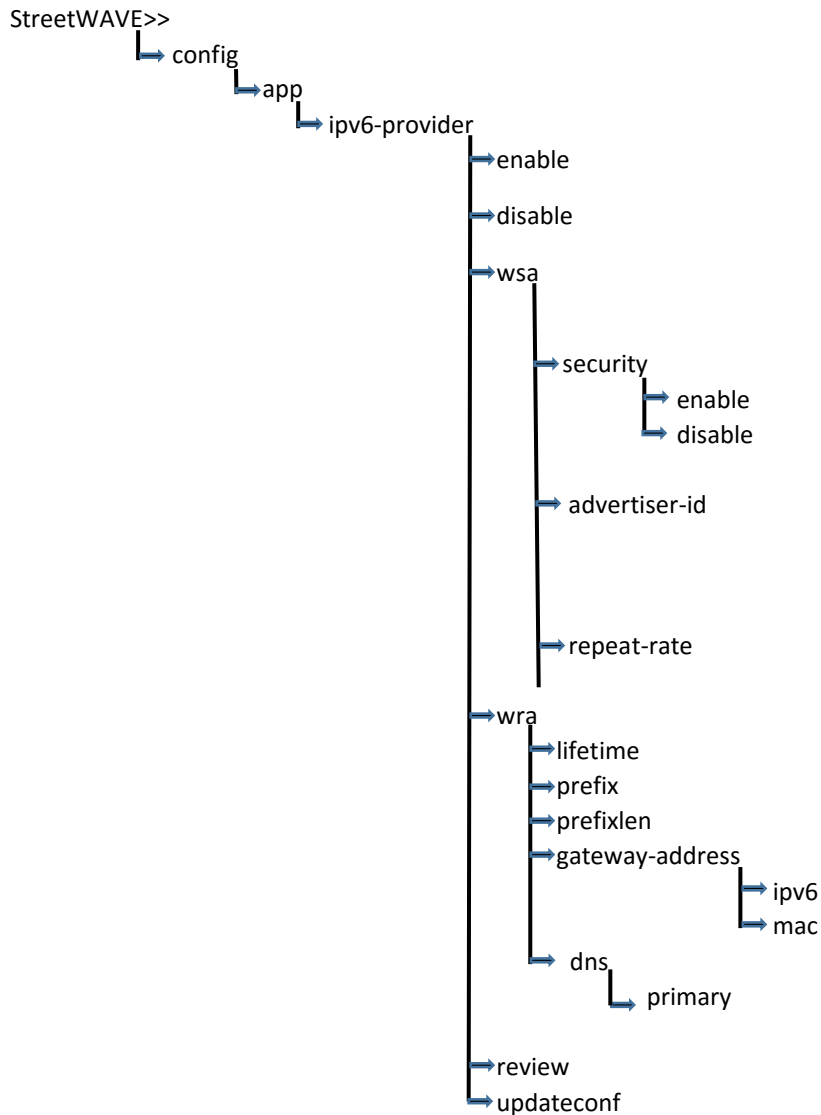
Configuring ipv6-provider

This section explains the CLI commands to configure ipv6-provider.

CLI Prompt: 'hostname>> level 1 level 2 level 3....?'

Example: 'StreetWAVE >> config app ipv6-provider enable'

The following map shows the sublevels of the application ipv6-provider.



The following table explains the sublevels of the application ipv6-provider.

config	Option under config	Description
	app	Config applications
app	Option under app	Description
	ipv6-provider	Set Ipv6-provider Configuration
ipv6-provider	Options under ipv6-provider	Description
	enable	Enable IPv6-provider application

	disable	Disable IPv6-provider application
	wsa	Set wsa configuration
	wra	Set wra configuration
	review	Display all modified values
	updateconf	update config changes to default record
wsa	Options under wsa	Description
	security	Enable the Security for WSAs
	advertiser-id	The Advertiser identifier of an advertising device. Type NULL to set no value
	repeat-rate	Number of WSA's to be transmitted per 5 seconds <0..255>
security	Options under security	Description
	enable	Enable the Security for WSAs
	disable	Disable the Security for WSAs
wra	Options under wra	Description
	lifetime	Router lifetime in seconds as per RFC2461 <1..65535>
	prefix	IPv6 prefix to announce in WRA of WSA. Type NULL to set no value
	prefixlen	IPv6 prefix length to announce in WRA of WSA <1..128>. Enter 0 to set no value
	gateway-address	Gateway-address IPv6-address/mac-address
	dns	DNS server address to announce in WRA of WSA
gateway-address	Options under gateway-address	Description
	ipv6	Default Gateway address to announce in WRA of WSA. Type NULL to set no value
	mac	Gateway MAC address to announce in WRA. Type NULL to set no value
dns	Options under dns	Description
	Primary	Primary DNS server address to announce in WRA of WSA. Type NULL to set no value

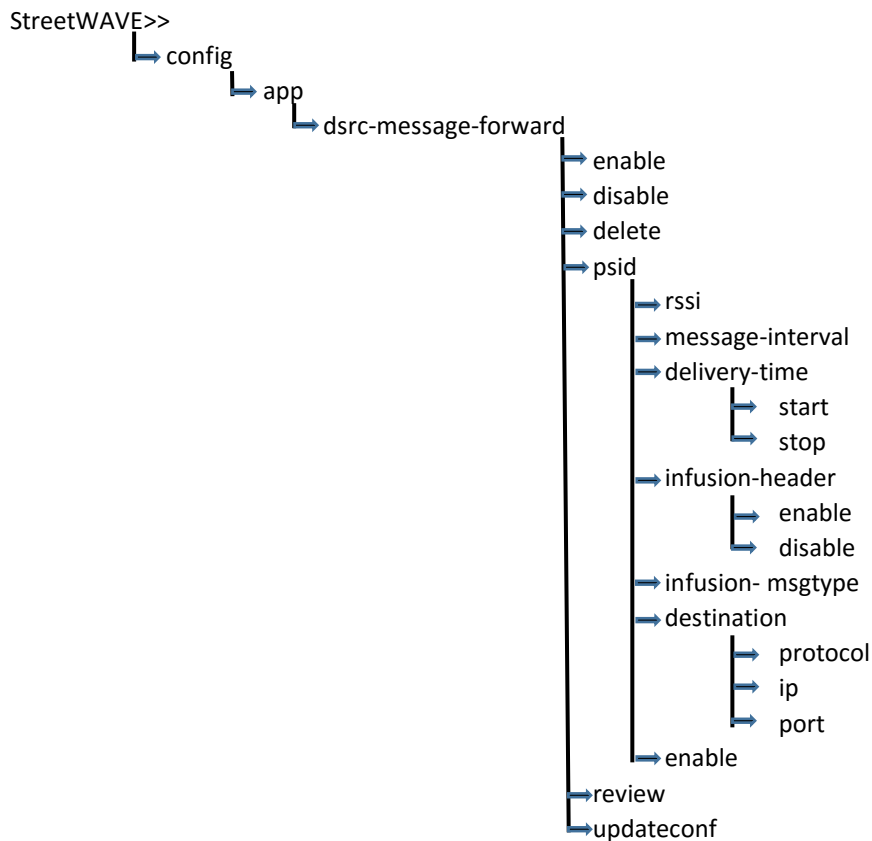
Configuring dsrc-message-forward

This section explains the CLI commands to configure dsrc-message-forward

CLI Prompt: 'hostname>> level 1 level 2 level 3....?'

Example: 'StreetWAVE >> config app dsrc-message-forward enable'

The following map shows the sublevels of the application dsrc-message-forward.



The following table explains the sublevels of the application dsrc-message-forward.

config	Option under config	Description
	app	Config applications
app	Option under app	Description
	dsrc-message-forward	Set dsrc-message-forward configuration
dsrc-message-forward	Option under dsrc-message-forward	Description
	enable	Enable dsrc-message-forward application
	disable	Disabel dsrc-message-forward application
	delete	Delete PSID
	psid	Set PSID and per PSID configurations

	review	Display all modified values
	updateconf	Update config changes to default record
psid	Options under psid	Description
	rsi	Set RSSI <-60..-100> dBm
	message-interval	Set message interval in seconds <1..9>
	delivery-time	DSRC packet delivery start/stop time(s)
	infusion-header	Enable/Disable the prepending of infusion header to the packet
	infusion-msgtype	Set infusion message type <0..255>
	destination	Set destination protocol, IP and port
	enable	Enable/disable forwarding for given psid <0 (disable)..1 (enable)>
delivery-time	Options under delivery-time	Description
	start	Set delivery-time start-time. Valid format: <mm/dd/yy,hh:mm>. Type NULL to set no value.>
	stop	Set delivery-time stop-time. Valid format: <mm/dd/yy,hh:mm>. Type NULL to set no value.>
destination	Options under destination	Description
	protocol	Select destination protocol: TCP or UDP
	ip	IPV6 or IPV4 address
	port	Set destination port <1024..65535>

Configuring tcd

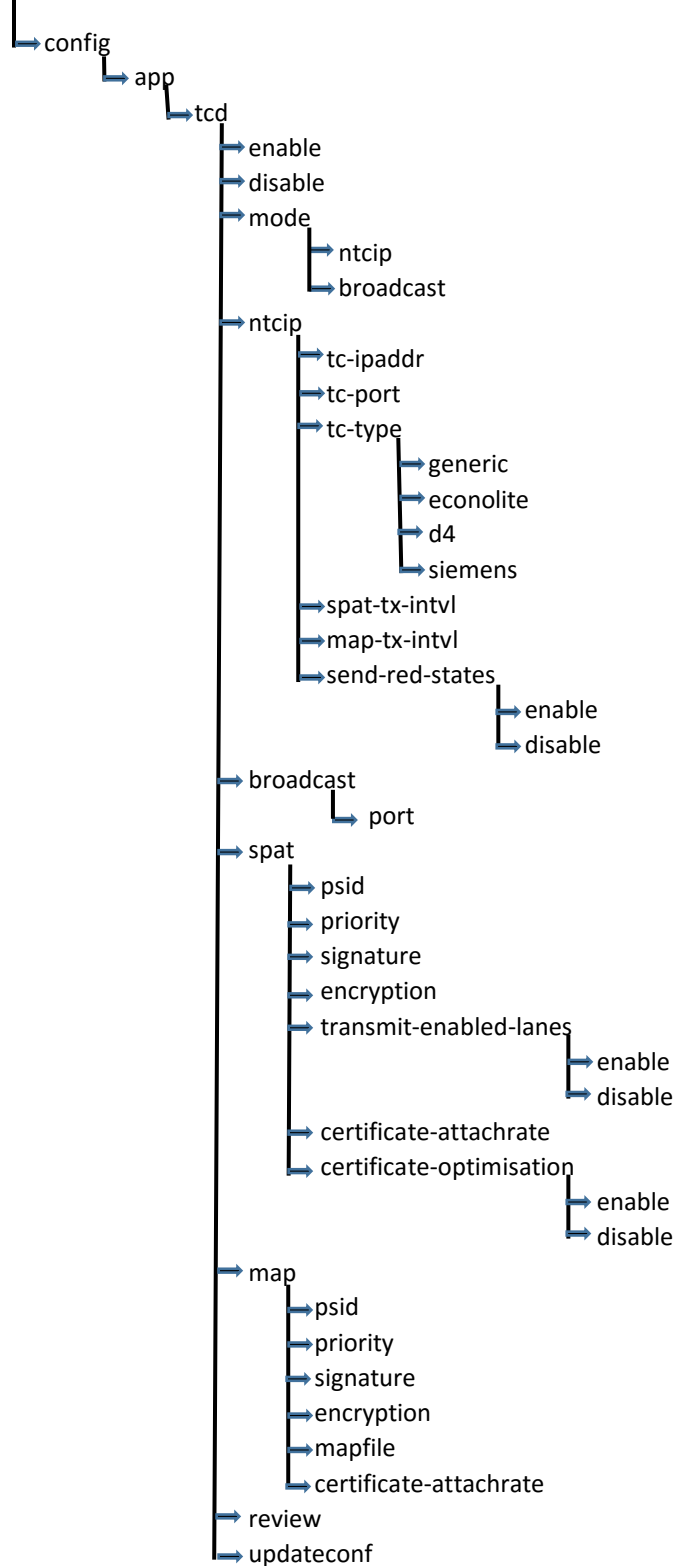
This section explains the CLI commands to configure tcd

CLI Prompt: 'hostname>> level 1 level 2 level 3....?'

Example: 'StreetWAVE >> config app tcd enable'

The following map shows the sublevels of the application tcd.

StreetWAVE>>



The following table explains the sublevels of the application tcd.

config	Option under config	Description
	app	Config applications
app	Option under app	Description
	tcd	Set tcdconfiguration
tcd	Option under tcd	Description
	enable	Enable tcd application
	disable	Disable tcd application
	mode	Set tcd operating mode <ntcip immediate-forward>
	ntcip	Set NTCIP mode configurations
	broadcast	Set broadcastmode configurations
	spat	Set SPAT configurations
	map	Set MAP configurations
	review	Display all modified values
	updateconf	Update config changes to default record
mode	Option under mode	Description
	ntcip	Set tcd operating mode to ntcip
	broadcast	Set tcd operating mode to broadcast
ntcip	Options under ntcip	Description
	tc-ipaddr	Set traffic controller IP address
	tc-port	Set traffic controller port <1..65535>
	tc-type	Set traffic controller type <generic, econolite, d4, siemens>
	spat-tx-intvl	Set SPAT trasmit Interval in milliseconds <100..2000>
	map-tx-intvl	Set MAP Trasmit Interval in milliseconds <1..10000>
	send-red-states	Enable/Disable the transmission of red phase
broadcast	Options under broadcast	Description
	Port	Set immediate-forward listen port for incoming messages <1..65535>

tc-type	Options under tc-type	Description
	generic	Set traffic controller type to Generic
	econolite	Set traffic controller type to Econolite
	d4	Set traffic controller type to D4
	siemens	Set traffic controller type to Siemens
send-red-states	Options under send-red-states	Description
	enable	Enable the transmission of red phase
	disable	Disable the transmission of red states
detector-info	Options under detector-info	Description
	enable	Enable detector info
	disable	Disable detector info
immediate-forward	Options under immediate-forward	Description
	Port	Set immediate-forward listen port for incoming messages <1..65535>
spat	Options under spat	Description
	psid	Set SPAT PSID <0x00..0x7F> <0X8000..0XBFFF> <0XC00000..0XDFFFFFF> <0XE0000000..0XEFFFFFFF>
	priority	Set SPAT priority <0..63>
	signature	Set SPAT signature <True/False>
	encryption	Set SPAT encryption <True/False>
	transmit-enabled-lanes	Enable/Disable the transmission of enabled lanes over the air
	certificate-attachrate	Set certificate attach rate for SPAT milliseconds <500..10000>
	certificate-optimisation	Enable/Disable SPAT certificate attached optimisation
transmit-enabled-lanes	Options under transmit-enabled-lanes	Description
	enable	Enable the transmission of enabled lanes over the air

	disable	Disable the transmission of enabled lanes over the air
certificate-optimisation	Options under certificate-optimisation	Description
	enable	Enable SPAT certAttach optimisation
	disable	Disable SPAT certAttach optimisation
map	Options under map	Description
	psid	Set MAP PSID <0x00..0x7F> <0X8000..0XBFFF> <0XC00000..0XDFFFFFF> <0XE0000000..0XEFFFFFFF>
	priority	Set MAP priority <0..63>
	signature	Set MAP signature <True/False>
	encryption	Set MAP encryption <True/False>
	Mapfile	Set MAP file name <max-characters 256>
	certificate-attachrate	Set certificate attach rate for MAP milliseconds <1000..10000>

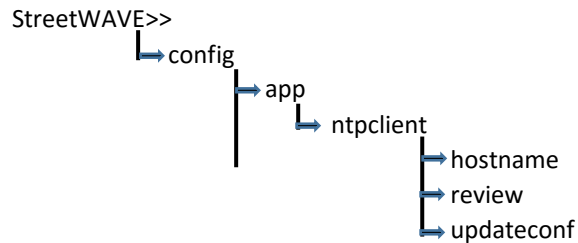
Configuring ntpclient

This section explains the CLI commands to configure ntpclient.

CLI Prompt: 'hostname>> level 1 level 2 level 3....?'

Example: 'StreetWAVE >> config app ntpclient'

The following map shows the sublevels of the application ntpclient.



The following table explains the sublevels of the application ntpclient.

config	Option under config	Description
	app	Config applications
app	Option under app	Description
	ntpclient	Set ntpclient configuration
ntpclient	Option under ntpclient	Description
	hostname	Set ntpclient hostname <max-characters 64>
	review	Display all modified values
	updateconf	Update config changes to default record

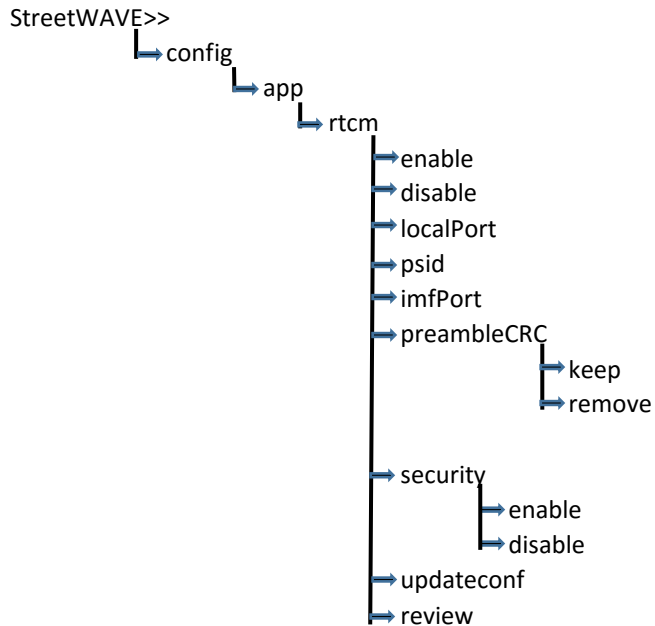
Configuring rtcm

This section explains the CLI commands to configure rtcm

CLI Prompt: 'hostname>> level 1 level 2 level 3....?'

Example: 'StreetWAVE >> config app rtcm'

The following map shows the sublevels of the application rtcm.



The following table explains the sublevels of the application rtcm.

config	Option under config	Description
	app	Config applications
app	Option under app	Description
	rtcm	Set rtcm configuration
rtcm	Option under rtcm	Description
	enable	Enable rtcm application
	disable	Disable rtcm application
	localPort	Set local port for use with udp
	psid	PSID for use with RTCM message
	imfPort	IFM UDP port (immediate-forward udp port)
	preambleCRC	RTCM preamble and CRC
	security	Set security
	updateconf	Update config changes to default record
	review	Display modified values

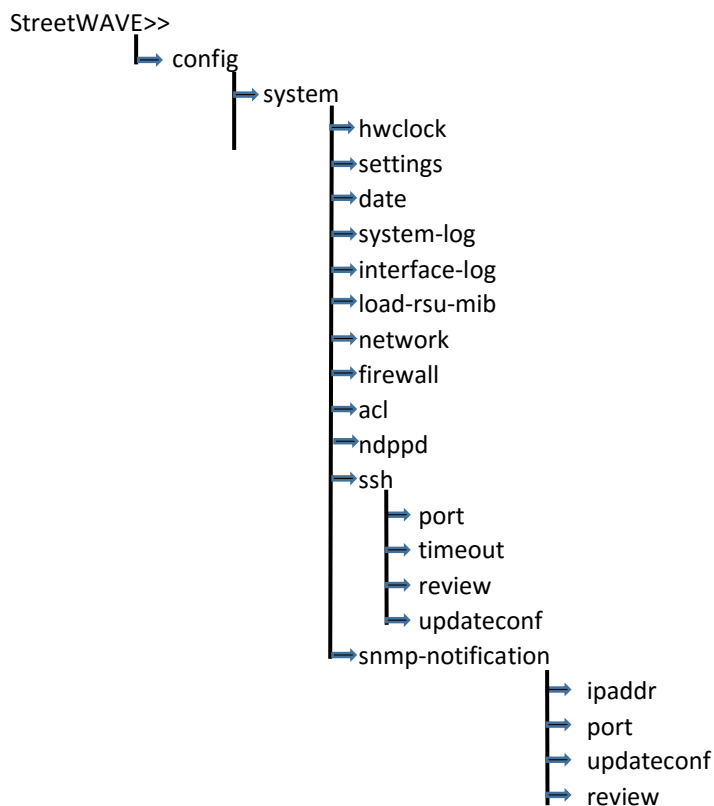
preambleCRC	Option under preambleCRC	Description
	keep	Keep RTCM preamble and CRC
	remove	Remove RTCM preamble and CRC

security	Option under security	Description
	enable	Set security enable
	disable	Set security disable

Configuring system

This section explains the CLI commands to configure system of StreetWAVE™

The following map shows the sublevels of the system.



The following table explains the functions of the available CLI commands for system.

config	Option under config	Description
	system	System configurations

system	Option under system	Description
	hwclock	Set hwclock Configuration
	settings	Set system settings Configuration
	date	Set system date, valid format: <MMDDhhmmYYYY> ex: <112410202015>

	system-log	Set system-log Configuration
	interface-log	interface-log Configuration
	load-rsu-mib	Apply rsu-mib . txt parameter value to the respective applications
	network	Set network configurations
	firewall	Set firewall configuration
	acl	Set ACL configurations
	ndppd	Set ndppd configuration
	ssh	Set ssh configuration
	snmp-notifcation	Set snmp-notifcation configuration
ssh	Option under ssh	Description
	port	Set ssh port <1024 - 65535>
	timeout	Set timeout value <60 – 3600>
	review	Display modified values
	updateconf	Update config changes to default record
snmp-notification	Options under snmp-notification	Description
	ipaddr	IPV6 or IPV4 address
	port	Set snmp-notification port <1024 - 65535>
	updateconf	Update config changes to default record
	review	Display modified values

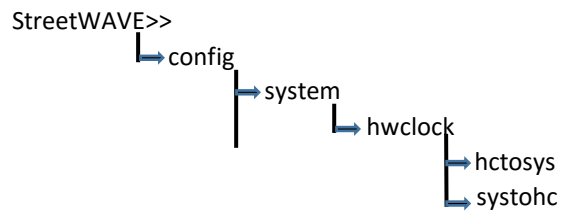
Configuring hwclock

This section explains the CLI commands to configure hwclock.

CLI Prompt: 'hostname>> level 1 level 2 level 3....?'

Example: 'StreetWAVE >> config system hwclock'

The following map shows the sublevels of the system hwclock.



The following table explains the sublevels of the system hwclock.

config	Option under config	Description
	system	System configurations
system	Option under system	Description
	hwclock	Set hwclock Configuration
hwclock	Option under hwclock	Description
	hctosys	Set the system time to the hardware clock
	systohc	Set the hardware clock to the system time

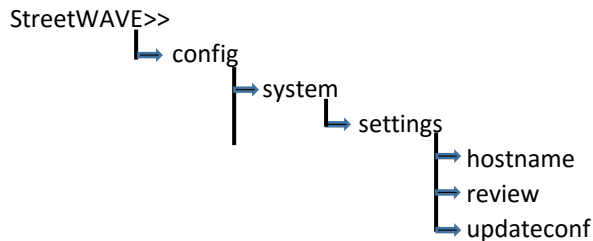
Configuring settings

This section explains the CLI commands to configure settings.

CLI Prompt: 'hostname>> level 1 level 2 level 3....?'

Example: 'StreetWAVE >> config system settings'

The following map shows the sublevels of the system settings.



The following table explains the sublevels of the system settings.

config	Option under config	Description
	system	System configurations
system	Option under system	Description
	settings	Set system settings Configuration
settings	Option under settings	Description
	hostname	Set the system hostname <ex:StreetWAVE max-character 64>
	review	Display all modified values
	updateconf	Update config changes to default record

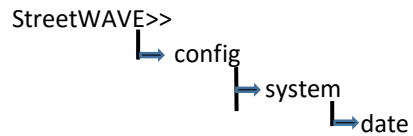
Configuring date

This section explains the CLI commands to configure date.

CLI Prompt: 'hostname>> level 1 level 2 level 3....?'

Example: 'StreetWAVE >> config system date'

The following map shows the sublevels of the system date.



The following table explains the sublevels of the system date

config	Option under config	Description
	system	System configurations
system	Option under system	Description
	date	Set system date, valid format: <MMDDhhmmYYYY> ex: <112410202015>

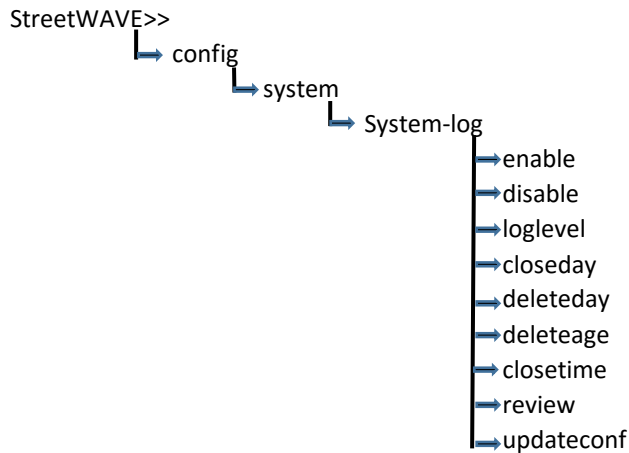
Configuring system-log

This section explains the CLI commands to configure system-log.

CLI Prompt: 'hostname>> level 1 level 2 level 3....?'

Example: 'StreetWAVE >> config system system-log'

The following map shows the sublevels of the system system-log.



The following table explains the sublevels of the system-log.

config	Option under config	Description
	system	System configurations
system	Option under system	Description
	system-log	Set system-log Configuration
System-log	Option under System-log	Description
	enable	Enable system log
	disable	Disable system log
	loglevel	Set system-log level <1 - 8>
	closeday	Set the day of the week on which to close the syslog file <1(monday) - 7(sunday)>
	deleteday	Set the day of the week on which to try to delete old syslog files <1(monday) - 7(sunday)>
	deleteage	Set the age (in number of days) after which to try to delete old syslog files <1 - 30>
	closetime	Show system-log closing time of the day
	review	Display all modified values
	updateconf	Update config changes to default record

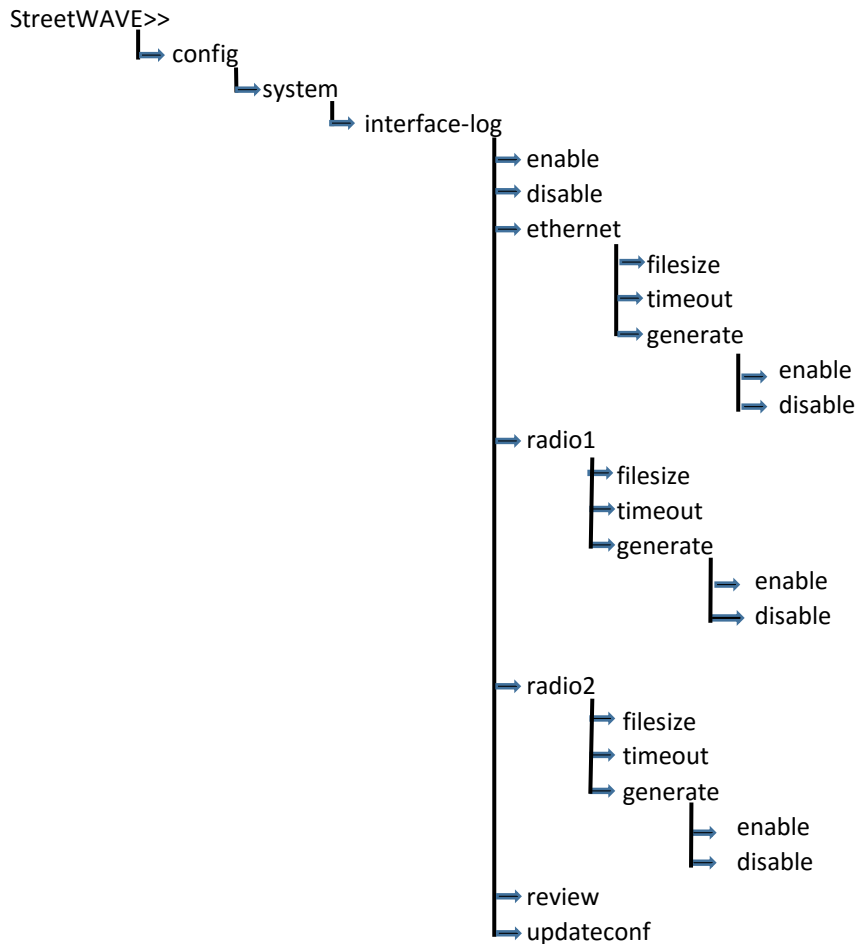
Configuring interface-log

This section explains the CLI commands to configure interface-log

CLI Prompt: 'hostname>> level 1 level 2 level 3....?'

Example: 'StreetWAVE >> config system interface-log'

The following map shows the sublevels of the system interface-log.



The following table explains the sublevels of the interface-log.

config	Option under config	Description
	system	System configurations
system	Option under system	Description
	interface-log	Set interface-log Configuration
interface-log	Option under interface-log	Description
	enable	Enable interface-log
	disable	Disable interface-log
	ethernet	Set interface-log file for eth0

	radio1	Set interface-log file for radio 1
	radio2	Set interface-log file for radio 2
	review	Display all modified values
	updateconf	Update changes to default record
ethernet	Option under ethernet	Description
	filesize	Set interface-log file size for eth0 in MB <5.. 40>
	timeout	Set max time file is allowed to grow in hours <1.. 48>
	generate	ethernet generate enable / disable for incapture and outcapture
radio1	Option under radio1	Description
	filesize	Set interface-log file size for radio1 in MB <5 .. 40>
	timeout	Set max time file is allowed to grow in hours <1 .. 48>
	generate	radio1 generate enable/disable for incapture and outcapture
radio2	Option under radio2	Description
	filesize	Set interface-log file size for radio2 in MB <5 .. 40>
	timeout	Set max time file is allowed to grow in hours <1 .. 48>
	generate	radio2 generate enable/disable for incapture and outcapture

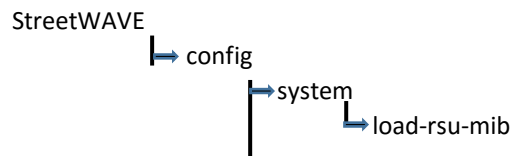
Configuring load-rsu-mib

This section explains the CLI commands to configure load_rsu-mib

CLI Prompt: 'hostname>> level 1 level 2 level 3....?'

Example: 'StreetWAVE >> config system load-rsu-mib'

The following map shows the sublevels of the system load_rsu-mib



The following table explains the sublevels of the load-rus-mib.

config	Option under config	Description
	system	System configurations
system	Option under system	Description
	Load-rsu-mib	Apply rsu-mib.txt parameter value to the respective applications

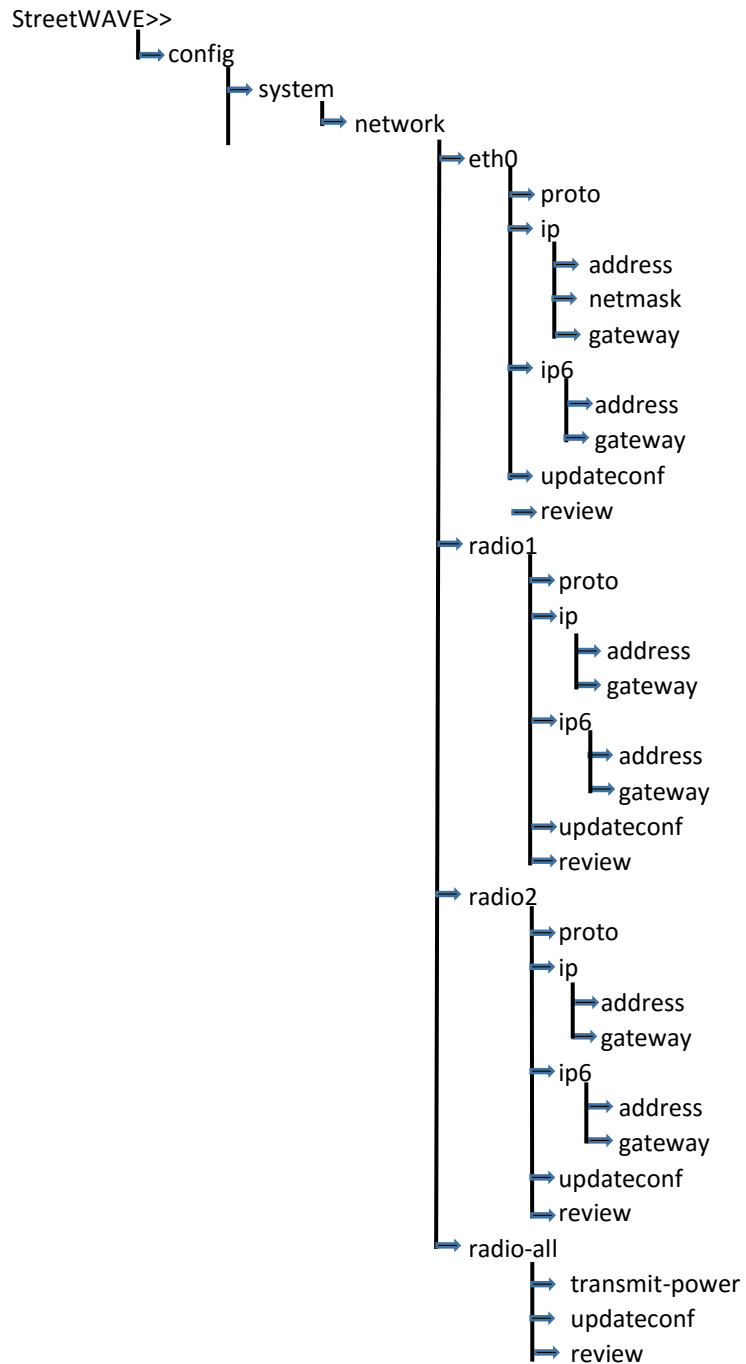
Configuring network

This section explains the CLI commands to configure network

CLI Prompt: 'hostname>> level 1 level 2 level 3....?'

Example: 'StreetWAVE >> config system network'

The following map shows the sublevels of the system network.



The following table explains the sublevels of the network.

config	Option under config	Description
	system	System configurations
system	Option under system	Description
	network	Set networkConfiguration
network	Option under network	Description
	eth0	Set network configuration parameters for eth0
	radio1	Set network configuration parameters for radio1
	radio2	Set network configuration parameters for radio2
eth0	Option under eth0	Description
	proto	Set protocol for eth0 <dhcp/static>
	ip	Set IPv4 address, gateway and netmask
	ip6	Set IPv6 address and gateway
	updateconf	Update config changes to default record
	review	Display modified value for eth0
eth0 > ip	Option under ip	Description
	address	Set IPv4 address for eth0
	netmask	Set IPv4 netmask for eth0
	gateway	Set IPv4 gateway for eth0
eth0 > ip6	Option under ip6	Description
	address	Set IPv6 address for eth0
	gateway	Set IPv6 gateway for eth0
radio1	Option under dsrc0	Description
	proto	Set protocol for dsrc0 <dhcp/static>
	ip	Set IPv4 address, gateway and netmask for dsrc0
	ip6	Set IPv6 address and gateway for dsrc0
	updateconf	Update config changes to default record

	review	Review network configuration parameters for dsrc0
radio1 > ip	Option under ip	Description
	address	Set IPv4 address for dsrc0
	gateway	Set IPv4 gateway for dsrc0
radio1> ip6	Option under ip6	Description
	address	Set IPv6 address for dsrc0
	gateway	Set IPv6 gateway for dsrc0
radio2	Option under dsrc1	Description
	proto	Set protocol for dsrc1 <dhcp/static>
	ip	Set IPv4, ipv6 and gateway address for dsrc1
	ip6	Set IPv6 address and gateway for dsrc1
	updateconf	Update config changes to default record
	review	Review network configuration parameters for dsrc1
radio2 > ip	Option under ip	Description
	address	Set IPv4 address for dsrc1
	gateway	Set IPv4 gateway for dsrc1
radio2> ip6	Option under ip6	Description
	address	Set IPv6 address for dsrc1
	gateway	Set IPv6 gateway for dsrc1
radio-all	transmit-power	Set transmit power <0 – 33>
	updateconf	Update config changes
	review	Review network configuration parameters for radio-all

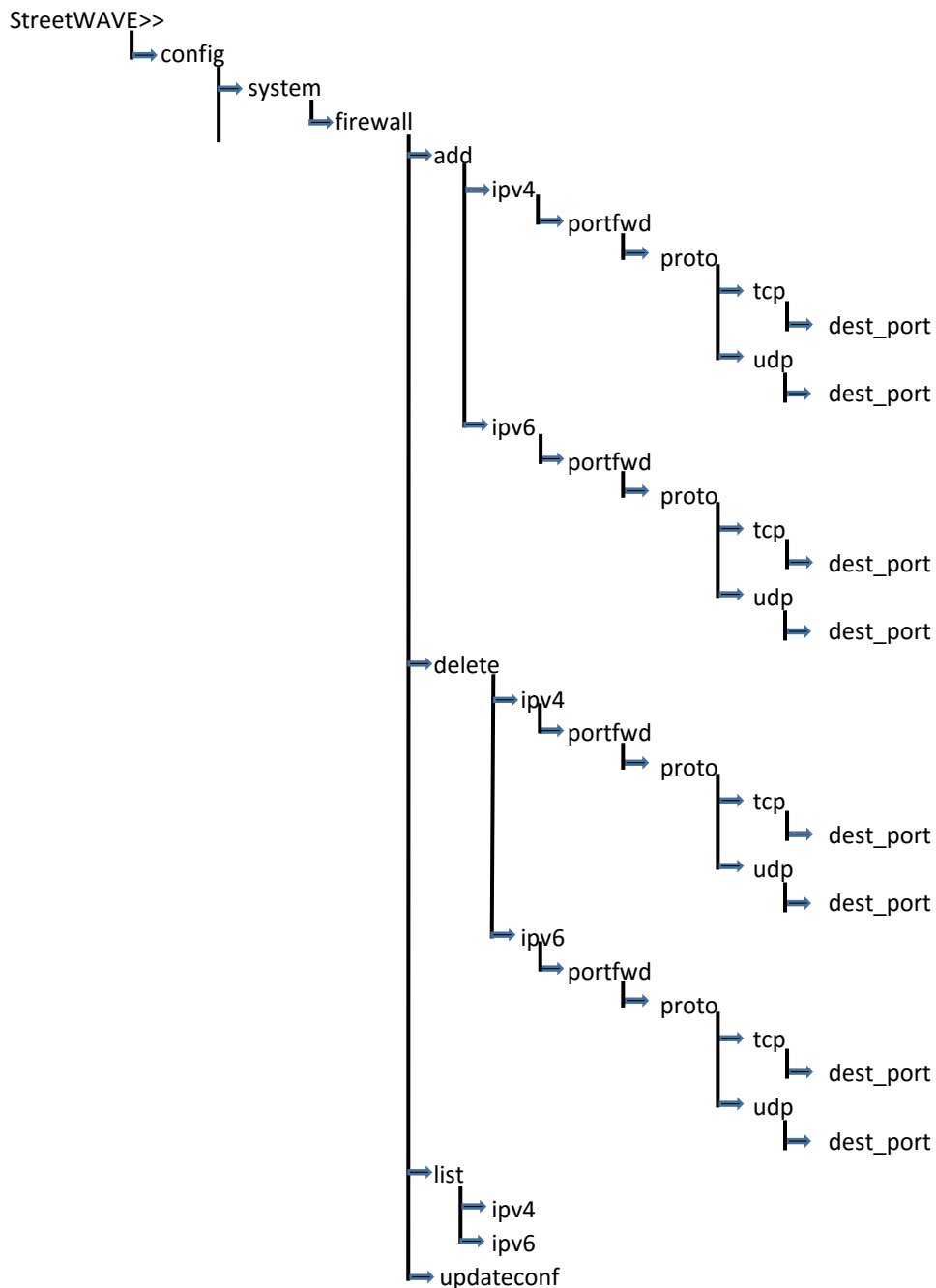
Configure firewall

This section explains the CLI commands to configure firewall

CLI Prompt: 'hostname>> level 1 level 2 level 3....?'

Example: 'StreetWAVE >> config system firewall'

The following map shows the sublevels of the system firewall.



The following table explains the sublevels of the firewall.

config	Option under config	Description
	system	System configurations

system	Option under system	Description
	firewall	Set firewall Configuration
firewall	Option under firewall	Description
	add	Add firewall port forwarding rule for IPv4 and IPv6
	delete	Delete firewall port forwarding rules
	list	Display all firewall rules
	updateconf	Update config changes to default record
add	Option under add	Description
	ipv4	Add firewall port forwarding rule for IPv4
	ipv6	Add firewall port forwarding rule for IPv6
delete	Option under delete	Description
	ipv4	Delete firewall port forwarding rule for IPv4
	ipv6	Delete firewall port forwarding rule for IPv6
list	Option under list	Description
	ipv4	Display all IPv4 rules
	ipv6	Display all IPv6 rules

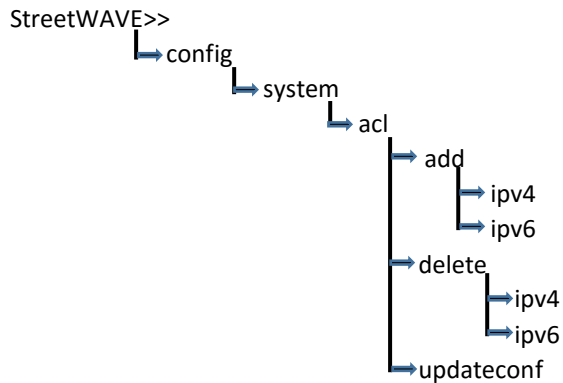
Configuring acl

This section explains the CLI commands to configure acl

CLI Prompt: 'hostname>> level 1 level 2 level 3....?'

Example: 'StreetWAVE >> config system acl'

The following map shows the sublevels of the system firewall.



The following table explains the sublevels of the acl.

config	Option under config	Description
	system	System configurations
system	Option under system	Description
	acl	Set ACL Configuration
acl	Option under acl	Description
	add	Add ACL IPv4 and IPv6 address
	delete	Delete ACL IPv4 and IPv6 address
	updateconf	Update config changes to default record
add	Option under add	Description
	ipv4	Add ACL IPv4 address
	ipv6	Add ACL IPv6 address
delete	Option under delete	Description
	ipv4	Delete ACL IPv4 address
	ipv6	Delete ACL IPv6 address

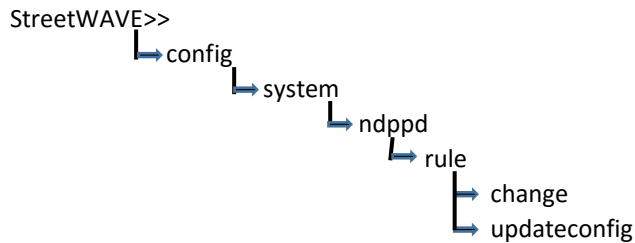
Configuring ndppd

This section explains the CLI commands to configure ndppd

CLI Prompt: 'hostname>> level 1 level 2 level 3....?'

Example: 'StreetWAVE >> config system ndppd'

The following map shows the sublevels of the system ndppd.



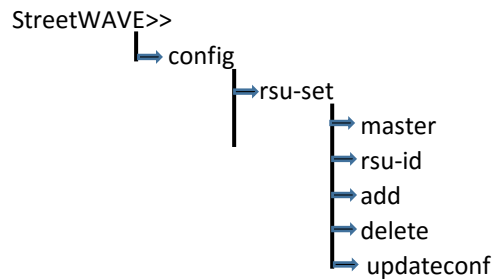
The following table explains the sublevels of the acl.

config	Option under config	Description
	system	System configurations
system	Option under system	Description
	ndppd	Set ndppd Configuration
ndppd	Option under ndppd	Description
	rule	Add IP rule for ndppd
Rule	Option under rule	Description
	change	Add/Update IP rule for ndppd
	updateconfig	Update config changes to default record

Configure rsu-set

This section explains the CLI commands to configure rsu-set of StreetWAVE™

The following map shows the sublevels of the rsu-set.



The following table explains the functions of the available CLI commands for rsu-set.

config	Option under config	Description
	rsu-set	set RSUsetsConfiguration
rsu-set	Option under rsu-set	Description
	master	Set RSU as a master
	rsu-id	Modify slave IP address for given rsu-id in rsu-set
	add	Add a slave to rsu-set
	delete	Delete a slave from rsu-set
	updateconf	Update config changes to default record

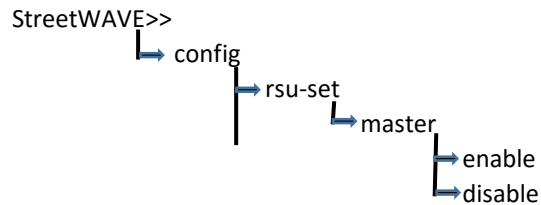
Configuring master

This section explains the CLI commands to configure master

CLI Prompt: 'hostname>> level 1 level 2 level 3....?'

Example: 'StreetWAVE >> config rsu-set master'

The following map shows the sublevels of the rsu-set master.



The following table explains the sublevels of the master.

config	Option under config	Description
	rsu-set	System configurations
rsu-set	Option under rsu-set	Description
	master	Set RSU as a master
master	Option under master	Description
	enable	Set RSU as a master
	disable	Set rsu-set as a slave

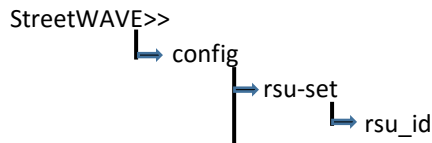
Configuring rsu_id

This section explains the CLI commands to configure rsu_id

CLI Prompt: 'hostname>> level 1 level 2 level 3....?'

Example: 'StreetWAVE >> config rsu-set rsu_id'

The following map shows the sublevels of the rsu-set rsu_id.



The following table explains the sublevels of the rsu_id.

config	Option under config	Description
	rsu-set	System configurations
rsu-set	Option under rsu-set	Description
	rsu_id	Modify slave ip address for given rsu_id in rsu-set

Configuring add and delete

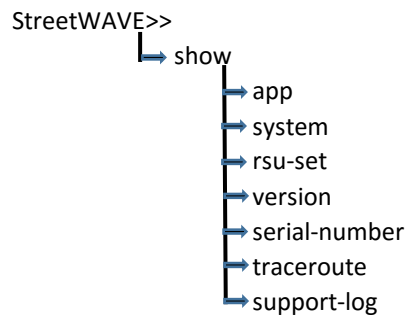
This section explains the CLI commands to configure add and delete.

To configure add and delete of rsu-set, kindly refer [Configuring rsu-set](#).

show

This section explains the sublevels to view the configuration values of applications of StreetWAVE™.

The following map shows the sublevels of show.



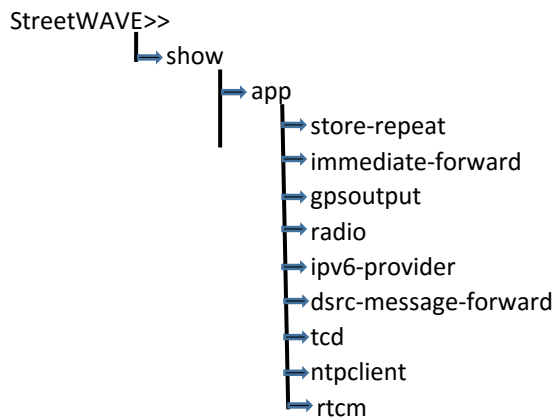
The following table explains the functions of available CLI commands for show.

StreetWAVE>>	Option under StreetWAVE	Description
	show	RSU show configuration values
Show	Option under show	Description
	app	Show application configuration
	system	Show System configuration
	rsu-set	Show all rsu-set slave IP address
	version	Show RSU version
	serial-number	Show RSU serial number
	traceroute	Show IPv4 /IPv6 route packets trace
	support-log	Generate log files for technical support

CLIs to view app

This section explains the CLI commands to view configuration values of applications of StreetWAVE™

The following map shows the sublevels of the app.



The following table explains the functions of the available CLI commands for viewing configuration values of app.

StreetWAVE>>	Option under StreetWAVE	Description
	show	RSU show configuration values
show	Option under show	Description
	app	Show application configuration
app	Option under app	Description
	store-repeat	Show store-repeat Configuration
	immediate-forward	Show immediate-forward Configuration
	gpsoutput	Show Gpsoutput Configuration
	radio	Show Radio Configuration
	ipv6-provider	Show Ipv6-provider Configuration
	dsrc-message-forward	Show dsrc-message-forward Configuration
	tcd	Show Tcd Configuration
	bsmforwd	Show bsm-forwd configuration
	wsmppforwd	Show wsmppforwd configuration
	ntpclient	Show ntpclient configuration
	rtcm	Show rtcm configuration

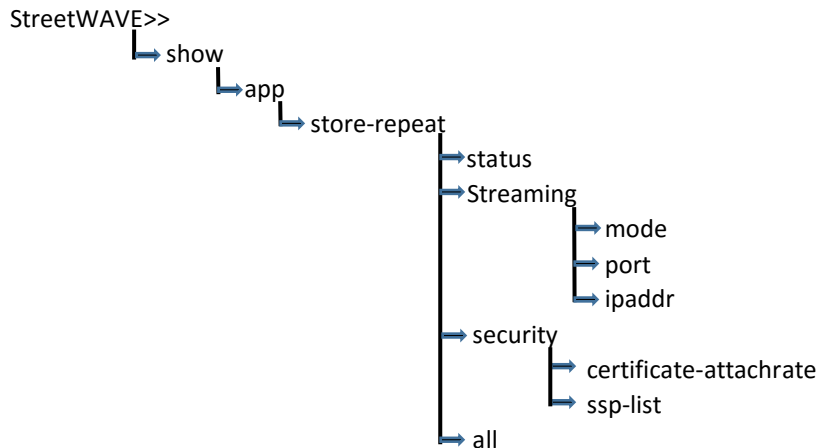
CLIs to view store-repeat

This section explains the CLIs available to view the configuration values of app store-repeat.

CLI Prompt: 'hostname>> level 1 level 2 level 3....?'

Example: 'StreetWAVE >> show app store-repeat'

The following map shows the sublevels to view configuration values of the app store-repeat.



The following table explains the sublevels of the application store-repeat.

show	Option under show	Description
	app	Show application configuration
app	Option under app	Description
	store-repeat	Set store-repeat Configuration
store-repeat	Options under store-repeat	Description
	status	Show store-repeat app status
	streaming	Show streaming mode, port and IP-address
	security	Show security settings
	all	Show all configurations
streaming	Options under streaming	Description
	mode	UDP Streaming mode
	port	UDP Streaming port
	ipaddr	IPv6 or IPv4 multicast/broadcast/unicast address to stream
security	Options under security	Description
	certificate-attachrate	Certificate Attach interval in millisecs

ssp-list

Set SSP(Service Specific Permission) to sign TIM
pkt. Seperated By colon(:), for example 01:FF:FF.
Type NULL to set no value.

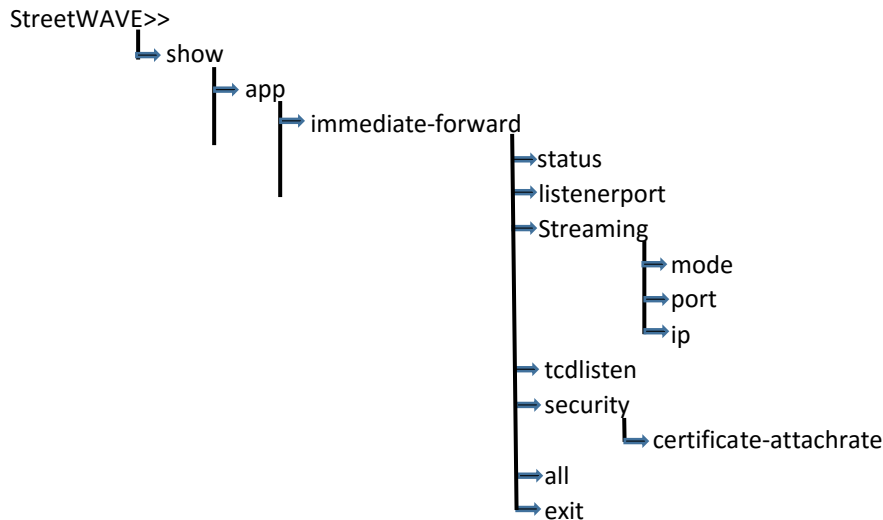
CLIs to view immediate-forward

This section explains the CLIs available to view configuration values of app immediate-forward.

CLI Prompt: 'hostname>> level 1 level 2 level 3....?'

Example: 'StreetWAVE >> show app immediate-forward'

The following map shows the sublevels to view configuration values of the app immediate-forward.



The following table explains the sublevels of the application immediate-forward.

show	Options under show	Description
	app	Show application configuration
app	Options under app	Description
	immediate-forward	Show Dsrcproxy Configuration
immediate-forward	Options under immediate-forward	Description
	status	Show immediate-forward status
	listenerport	UDP Listener Port
	streaming	Show streaming mode, port and IP-address
	tcdlisten	TC socket for incoming messages
	security	Show security settings
	all	Show all immediate-forward configurations
	exit	Exit to root
streaming	Options under streaming	Description
	mode	UDP Streaming Mode
	port	UDP Streaming Port

	ip	IPv6 or IPv4 multicast/broadcast/unicast address to stream
security	Options under security	Description
	certificate-attachrate	Certificate Attach interval in millisecs

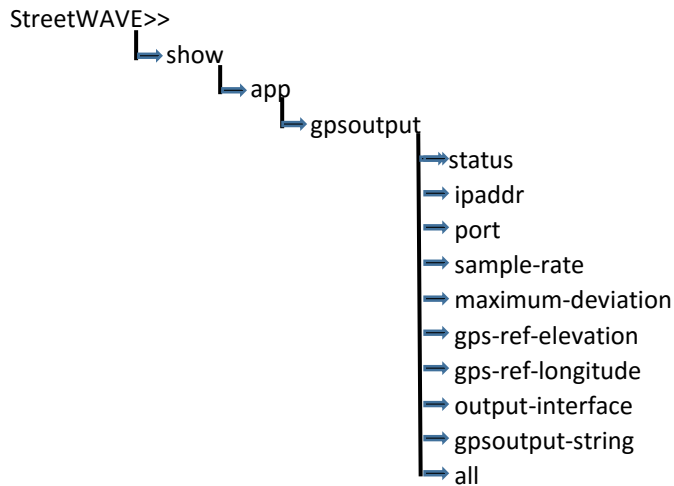
CLIs to view gpsoutput

This section explains the CLIs available to view configuration values of app gpsoutput.

CLI Prompt: 'hostname>> level 1 level 2 level 3....?'

Example: 'StreetWAVE >> show app gpsoutput'

The following map shows the sublevels to view configuration values of the app gpsoutput.



The following table explains the sublevels of the application gpsoutput

show	Options under show	Description
	app	Show application configuration
app	Options under app	Description
	gpsoutput	Show Gpsoutput Configuration
gpsoutput	Options under gpsoutput	Description
	status	show gpsoutput status
	ipaddr	show gpsoutput streaming ipaddr
	port	show gpsoutput streaming udp port
	sample-rate	show gpsoutput streaming sample-rate in seconds
	max-deviation	show gpsoutput maximum allowable deviation in meters
	gps-ref-elevation	show gpsoutput gps reference elevation
	gps-ref-longitude	show gpsoutput gps reference longitude
	gps-ref-latitude	show gpsoutput gps reference latitude
	output-interface	show gpsoutput gps output interface
	gpsoutput-string	show gpsoutput gps output string

all

show all gpsoutput configurations

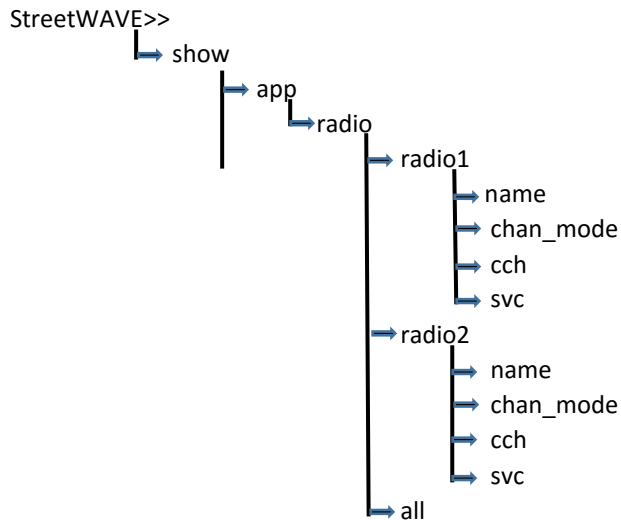
CLIs to view radio

This section explains the CLIs available to view configuration values of app radio.

CLI Prompt: 'hostname>> level 1 level 2 level 3....?'

Example: 'StreetWAVE >> show app radio'

The following map shows the sublevels to view configuration values of the app radio.



The following table explains the sublevels of the application radio.

show	Option under show	Description
	app	Show application configuration
app	Option under app	Description
	radio	Show Radio Configuration
radio	Options under radio	Description
	radio1	Show radio1 channel mode
	radio2	show radio2 channel mode
	all	Show all radio configurations
radio1	Options under radio1	Description
	name	Show radio1 name
	chan_mode	Show radio1 channel mode
	cch	Show radio1 control channel
	svc	Show radio1 Forced service channel
radio2	Options under radio2	Description
	name	Show radio2 name

chan_mode	show radio2 channel mode
cch	Show radio2 control channel
svc	Show radio2 Forced service channel

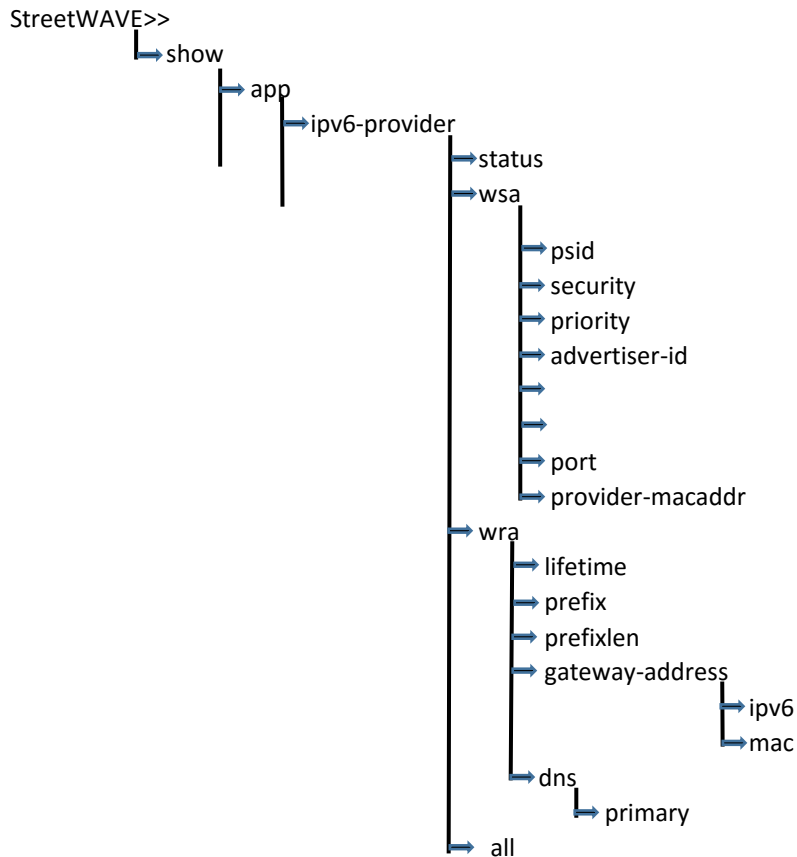
CLIs to view ipv6-provider

This section explains the CLIs available to view configuration values of app ipv6-provider.

CLI Prompt: 'hostname>> level 1 level 2 level 3....?'

Example: 'StreetWAVE >> show app ipv6-provider'

The following map shows the sublevels to view configuration values of the app ipv6-provider.



The following table explains the sublevels of the application ipv6-provider.

show	Option under show	Description
	app	Show application configuration
app	Option under app	Description
	ipv6-provider	Show Ipv6-provider Configuration
ipv6-provider	Options under ipv6-provider	Description
	status	Show IPv6-provider app status
	wsa	wsa configuration
	wra	wra configuration
	all	Show all configurations
wsa	Options under wsa	Description

	psid	PSID to announce in WSA Service Info (if security is enabled)
	security	Security for WSAs
	priority	IPv6 WSA priority
	advertiser_id	Advertiser identifier of an advertising device
	service-context	Provider service context
	ipv6addr	Provider IPv6 address to announce in Service Info of WSAs
	port	service port to announce in Service Info of WSAs
	provider-macaddr	Provider MAC Address of the device providing the service
	repeat-rate	The number of WSA's to be Transmitted per 5 seconds
wra	Options under wra	Description
	lifetime	Router lifetime in secs as per RFC2461
	prefix	IPv6 prefix to announce in WRA of WSA
	prefixlen	IPv6 prefix length to announce in WRA of WSA
	gateway-address	Gateway address IPv6-address/mac-address
	dns	DNS server address to announce in WRA of WSA
gateway-address	Options under gateway-address	Description
	ipv6	Default Gateway address to announce in WRA of WSA
	mac	Gateway MAC address to announce in WRA
dns	Options under dns	Description
	primary	Primary DNS server address to announce in WRA of WSA

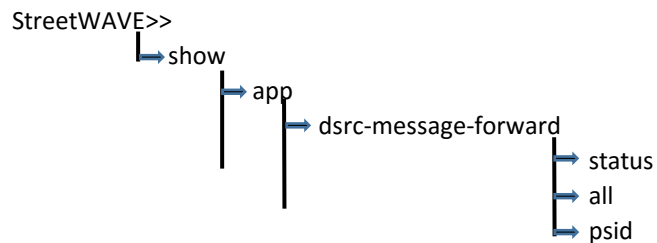
CLIs to view dsrc-message-forward

This section explains the CLIs available to view configuration values of app dsrc-message-forward

CLI Prompt: 'hostname>> level 1 level 2 level 3....?'

Example: 'StreetWAVE >> show app dsrc-message-forward'

The following map shows the sublevels of the application dsrc-message-forward.



The following table explains the sublevels of the application dsrc-message-forward.

show	Option under show	Description
	app	Show application configuration
app	Option under app	Description
	dsrc-message-forward	Show dsrc-message-forward Configuration
dsrc-message-forward	Option under dsrc-message-forward	Description
	status	Show dsrc-message-forward status
	all	Show all configuration
	psid	Show Message PSID

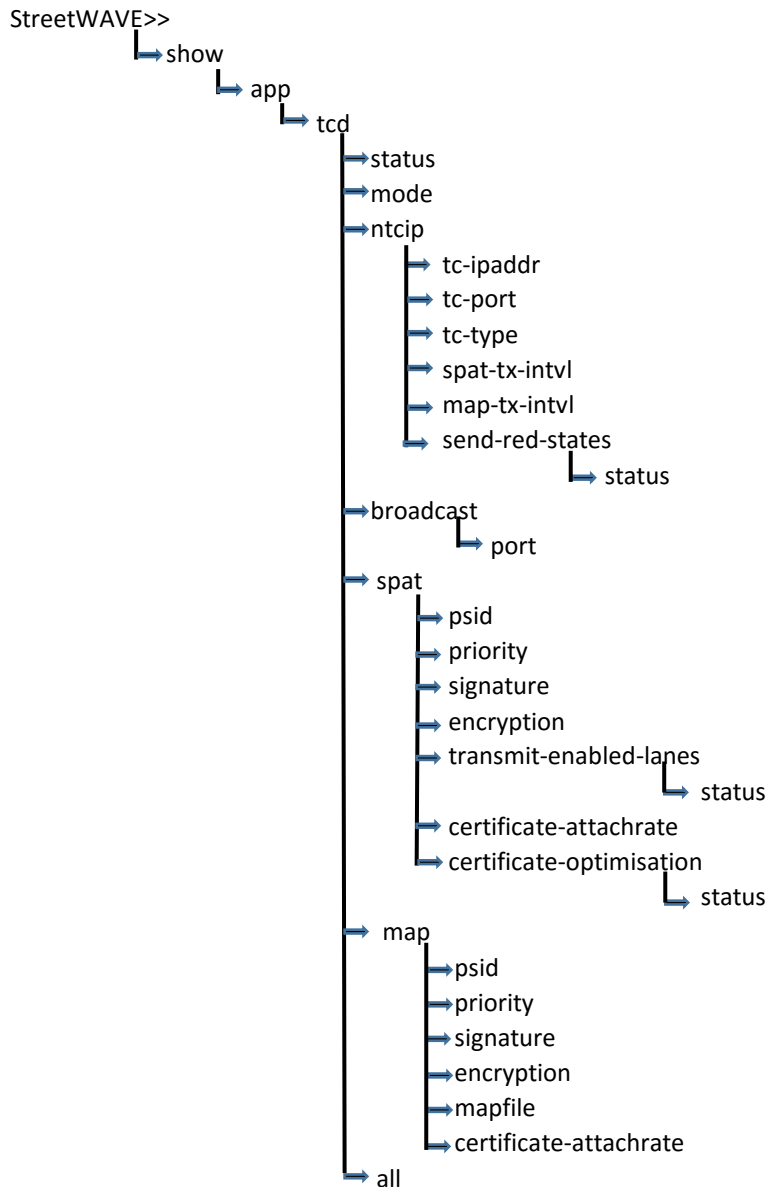
CLIs to view tcd

This section explains the CLIs available to view configuration values of app tcd

CLI Prompt: 'hostname>> level 1 level 2 level 3....?'

Example: 'StreetWAVE >> show app tcd'

The following map shows the sublevels of the application tcd.



The following table explains the sublevels of the application tcd.

show	Option under show	Description
	app	Show application configuration
app	Option under app	Description
	tcd	Show Tcd Configuration

tcd	Option under tcd	Description
	status	Show tcd application status
	mode	Show tcd operating mode
	ntcip	Show NTCIP mode configurations
	broadcast	Show broadcast configurations
	spat	Show Spat psid
	map	Show Map psid
	all	Show all configurations
ntcip	Options under ntcip	Description
	tc-ipaddr	show traffic controller's ipaddr
	tc-port	Show traffic controller's port number
	tc-type	Show traffic controller type
	spat-tx-intvl	Show spat transmission interval
	map-tx-intvl	Show map transmission interval
	send-red-states	Show status of sending red-states in Spat message
broadcast	Option under broadcast	Description
	port	Show broadcast port number
spat	Option under spat	Description
	psid	Show SPAT PSID
	priority	Show SPAT priority
	signature	Show SPAT signature
	encryption	Show SPAT encryption
	transmit-enabled-lanes	Show SPAT tx enabled lanes
	certificate-attachrate	Show certificate attach rate for Spat
	certificate-optimisation	Show SPAT certAttach optimisation status
map	Option under map	Description
	psid	Show MAP PSID
	priority	Show MAP priority
	signature	Show MAP signature

encryption	Show MAP encryption
mapfile	Show MAP file name
certificate-attachrate	Show certificate attach rate for Map

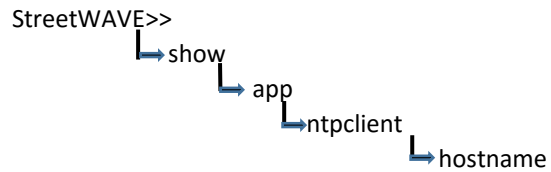
CLIs to view ntpclient

This section explains the CLIs available to view configuration values of app ntpclient.

CLI Prompt: 'hostname>> level 1 level 2 level 3....?'

Example: 'StreetWAVE >> show app ntpclient'

The following map shows the sublevels of the application ntpclient.



The following table explains the sublevels of the application ntpclient.

show	Option under show	Description
	app	RSU show configuration values
app	Option under app	Description
	ntpclient	Show Ntpclient configuration
ntpclient	Option under ntpclient	Description
	hostname	Show ntpclient hostname

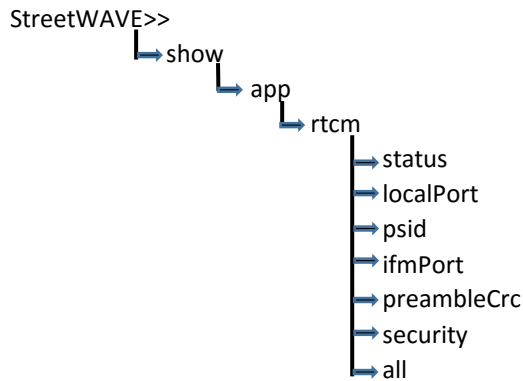
CLIs to view rtcm

This section explains the CLIs available to view configuration values of app rtcm.

CLI Prompt: 'hostname>> level 1 level 2 level 3....?'

Example: 'StreetWAVE >> show app rtcm'

The following map shows the sublevels of the application rtcm.



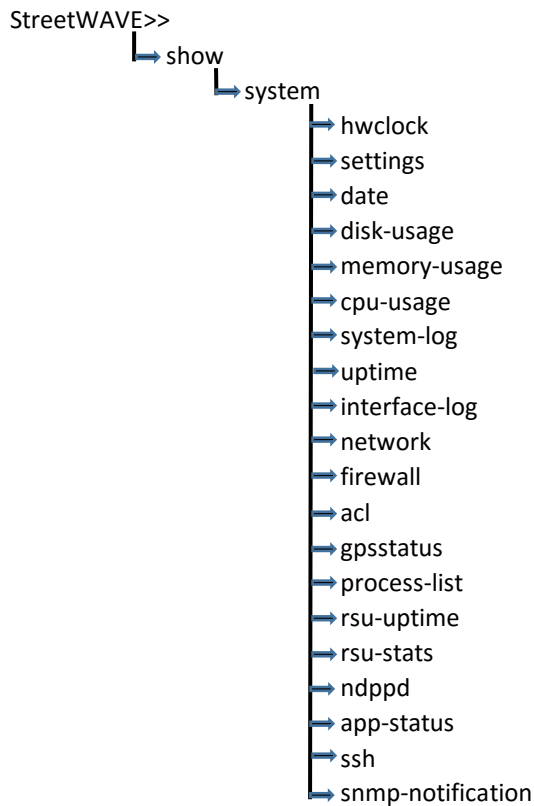
The following table explains the sublevels of the application rtcm.

show	Option under show	Description
	app	RSU show configuration values
app	Option under app	Description
	rtcm	Show rtcm configuration
rtcm	Option under rtcm	Description
	status	Show RTCM status
	localPort	Show local port for use with udp
	psid	Show PSID for use with RTCM message
	ifmPort	Show IFM udp port (immediate-forward udp port)
	preambleCrc	Show RTCM preambleCrc and CRC status
	security	Show RTCM security status
	all	Show all rtcm parameters

CLIs to view system

This section explains the CLI commands to view configuration values of system of StreetWAVE™

The following map shows the sublevels of the system.



The following table explains the functions of the available CLI commands for system.

show	Option under show	Description
	system	Show System configuration
system	Option under system	Description
	hwclock	Show hardware clock time
	settings	Show system settings Configuration
	date	Read date and pri
	disk-usage	Show filesystem disk space usage
	memory-usage	Show memory space used and free
	cpu-usage	Show CPU performance
	system-log	Show system-log Configuration
	uptime	Display the time since the last boot
	interface-log	Show interface-log configs

network	Show system network configuration for eth0
firewall	Show all firewall rules
acl	Show ACL configurations
gpsstatus	Show gps status
process-list	Show process list
rsu-uptime	Show uptime for rsu process
rsu-stats	RSU stats for store-repeat
ndppd	Show ip rule for ndppd
app-status	Show all application status
ssh	Show all ssh status
snmp-notification	Show all snmp-notification status

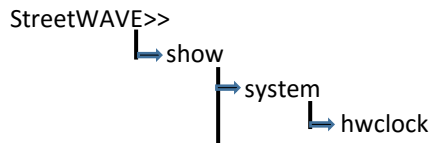
CLIs to view hwclock

This section explains the CLI commands to view configuration values of system hwclock.

CLI Prompt: 'hostname>> level 1 level 2 level 3....?'

Example: 'StreetWAVE >> show system hwclock'

The following map shows the sublevels of the system hwclock.



The following table explains the sublevels of the system hwclock.

show	Option under show	Description
	system	Show System configuration
system	Option under system	Description
	hwclock	Show hardware clock time

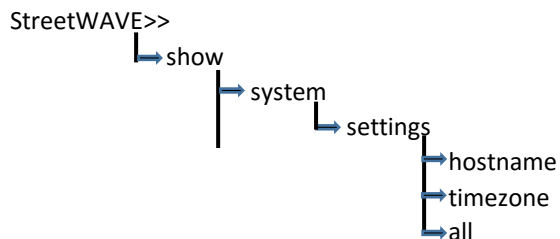
CLIs to view settings

This section explains the CLI commands to view configuration values of system settings.

CLI Prompt: 'hostname>> level 1 level 2 level 3....?'

Example: 'StreetWAVE >> show system settings'

The following map shows the sublevels of the system settings.



The following table explains the sublevels of the system settings.

show	Option under show	Description
	system	Show System configuration
system	Option under system	Description
	settings	Show system settings Configuration
settings	Option under settings	Description
	hostname	Show system hostname

timezone	Show system timezone
all	Show all system settings configurations

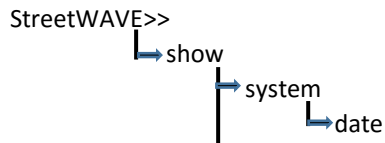
CLIs to view date

This section explains the CLI commands to view configuration values of system date.

CLI Prompt: 'hostname>> level 1 level 2 level 3....?'

Example: 'StreetWAVE >> show system date'

The following map shows the sublevels of the system date.



The following table explains the sublevels of the system date

show	Option under show	Description
	system	Show System configuration
system	Option under system	Description
	date	Read date and print result

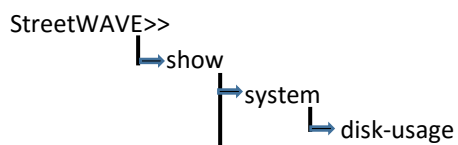
CLIs to view disk-usage

This section explains the CLI commands to view configuration values of system disk-usage.

CLI Prompt: 'hostname>> level 1 level 2 level 3....?'

Example: 'StreetWAVE >> show system disk-usage'

The following map shows the sublevels of the system disk-usage.



The following table explains the sublevels of the system disk-usage

show	Option under show	Description
	system	Show System configuration
system	Option under system	Description
	Disk-usage	Show filesystem disk space usage

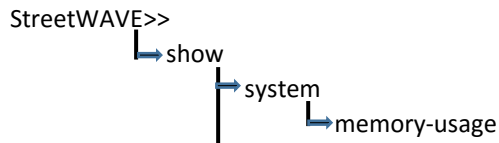
CLIs to view memory-usage

This section explains the CLI commands to view configuration values of system memory-usage.

CLI Prompt: 'hostname>> level 1 level 2 level 3....?'

Example: 'StreetWAVE >> show system memory-usage'

The following map shows the sublevels of the system memory-usage.



The following table explains the sublevels of the system memory-usage

show	Option under show	Description
	system	Show System configuration
system	Option under system	Description
	memory-usage	Show memory space used and free

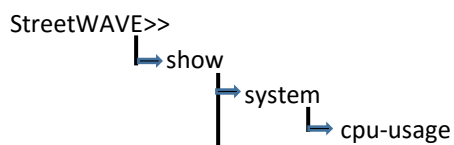
CLIs to view cpu-usage

This section explains the CLI commands to view configuration values of system cpu-usage.

CLI Prompt: 'hostname>> level 1 level 2 level 3....?'

Example: 'StreetWAVE >> show system cpu-usage'

The following map shows the sublevels of the system cpu-usage.



The following table explains the sublevels of the system cpu-usage

show	Option under show	Description
	system	Show System configuration
system	Option under system	Description
	cpu-usage	Show CPU performance

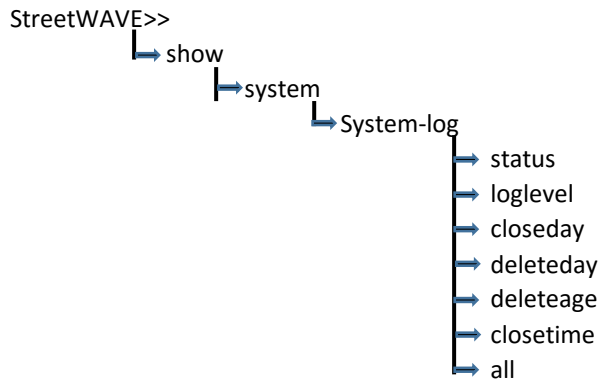
CLIs to view system-log

This section explains the CLI commands to view configuration values of system system-log.

CLI Prompt: 'hostname>> level 1 level 2 level 3....?'

Example: 'StreetWAVE >> show system system-log'

The following map shows the sublevels of the system system-log.



The following table explains the sublevels of the system-log.

show	Option under show	Description
	system	Show System configuration
system	Option under system	Description
	system-log	Show system-log Configuration
System-log	Option under System-log	Description
	status	Show system log enable/disable
	loglevel	Show system-log level
	closeday	Show system-log closing day of the week <1(monday) - 7(sunday)>
	deleteday	Show system-log deletion day of the week <1(monday) - 7(sunday)>
	deleteage	Show system-log deletion age (in number of days)
	closetime	Show the time at which the file gets closed
	all	Show all system-log configurations

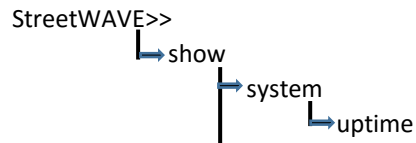
CLIs to view uptime

This section explains the CLI commands to view configuration values of system uptime.

CLI Prompt: 'hostname>> level 1 level 2 level 3....?'

Example: 'StreetWAVE >> show system uptime'

The following map shows the sublevels of the system uptime.



The following table explains the sublevels of the system uptime

show	Option under show	Description
	system	Show System configuration
system	Option under system	Description
	uptime	Display the time since the last boot

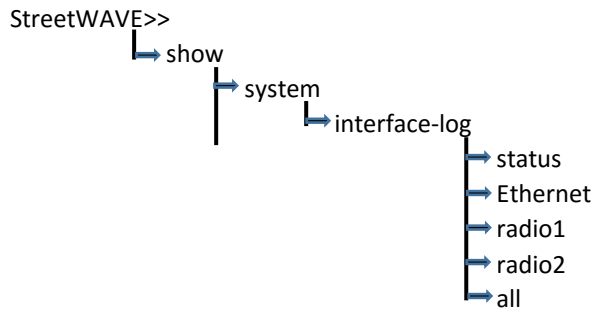
CLIs to view interface-log

This section explains the CLI commands to view configuration values of system interface-log.

CLI Prompt: 'hostname>> level 1 level 2 level 3....?'

Example: 'StreetWAVE >> show system interface-log'

The following map shows the sublevels of the system interface-log.



The following table explains the sublevels of the system interface-log

show	Option under show	Description
	system	Show System configuration
system	Option under system	Description
	Interface-log	Show interface-log configs
Interface-log	Option under Interface-log	Description
	status	Show interface-log enable/disable
	ethernet	Show interface-log for ethernet (filesize, timeout, outcapture, incapture)
	radio1	Show interface-log for radio1 (filesize, timeout, outcapture, incapture)
	radio2	Show interface-log for radio2 (filesize, timeout, outcapture, incapture)
	all	Show all interface-log configurations

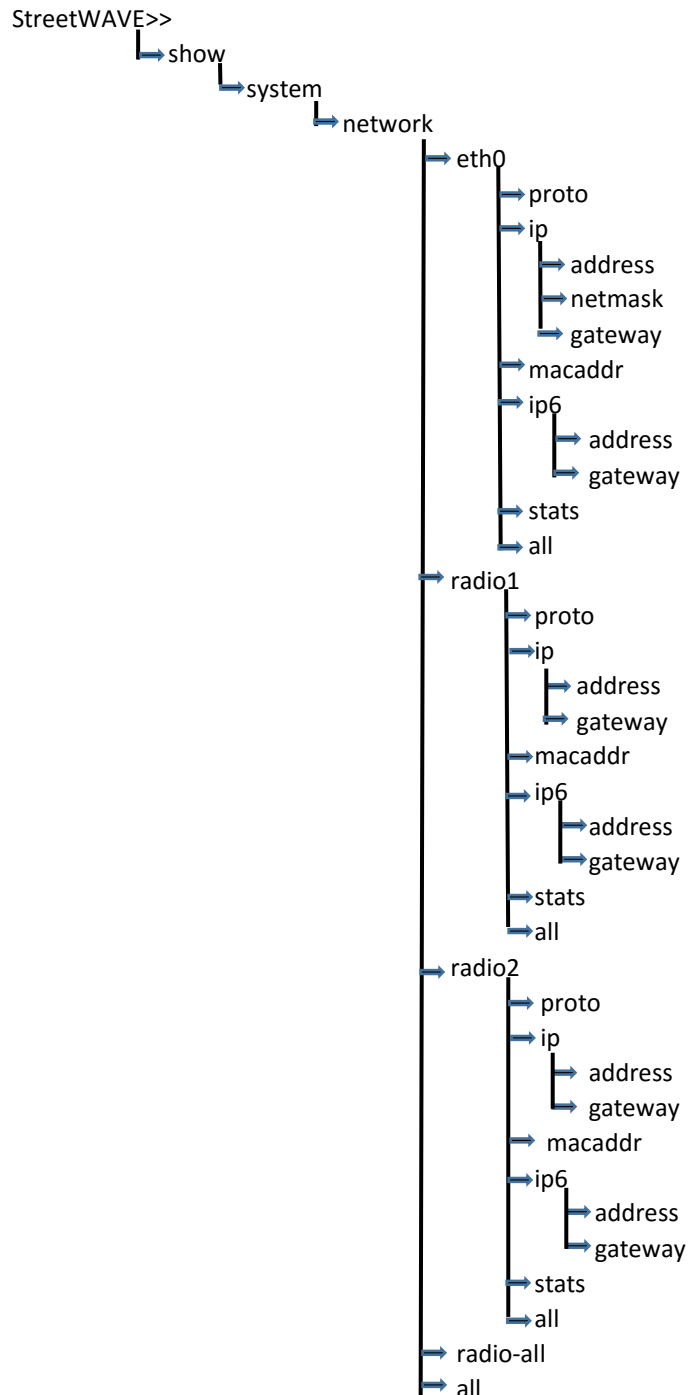
CLIs to view network

This section explains the CLI commands to view configuration values of system network

CLI Prompt: 'hostname>> level 1 level 2 level 3....?'

Example: 'StreetWAVE >> show system network'

The following map shows the sublevels of the system network.



The following table explains the sublevels of the network.

show	Option under show	Description
------	-------------------	-------------

	system	Show System configuration
system	Option under system	Description
	network	Show system network configuration
network	Option under network	Description
	eth0	Show system network configuration for eth0
	radio1	Show system network configuration for radio1
	radio2	Show system network configuration for radio2
	radio-all	Show system network configuration for radio1, and radio2
	all	Show all system network configuration information
eth0	Option under eth0	Description
	proto	Show protocol value <static/dhcp> for eth0
	ip	Show IPv4 address, gateway and netmask for eth0
	macaddr	Show mac address for eth0
	ip6	Show IPv6 address addnd gateway for eth0
	stats	Tx/Rx Status
	all	Show all eth0 configurations
eth0 > ip	Option under ip	Description
	address	Show IPv4 address for eth0
	netmask	Show IPv4 netmask for eth0
	gateway	Show IPv4 gateway for eth0
eth0 > ip6	Option under ip6	Description
	address	Show IPv6 address for eth0
	gateway	Show IPv6 gateway for eth0
radio1	Option under radio1	Description
	proto	Show protocol value <static/dhcp> for radio1
	ip	Show IPv4 address, gateway and netmask for radio1
	ip6	Show IPv6 address and gateway for radio1

	macaddr	Show nac address for radio1
	stats	Tx/Rx Status
	all	Show all dsrc0 configurations
ip	Option under ip	Description
	address	Show IPv4 address for radio1
	gateway	Show IPv4 gateway for radio1
radio1 > ip6	Option under ip6	Description
	address	Show IPv6 address for radio1
	gateway	Show IPv6 gateway for radio1
radio2	Option under radio2	Description
	proto	Show protocol value <static/dhcp> for radio2
	ip	Show IPv4 address, gateway and netmask for radio2
	ip6	Show IPv6 address and gateway for radio2
	macaddr	Show nac address for radio2
	stats	Tx/Rx Status
	all	Show all dsrc1 configurations
radio2 > ip	Option under ip	Description
	address	Show IPv4 address for radio2
	gateway	Show IPv4 gateway for radio2
radio2 > ip6	Option under ip6	Description
	address	Show IPv6 address for radio2
	gateway	Show IPv6 gateway for radio2

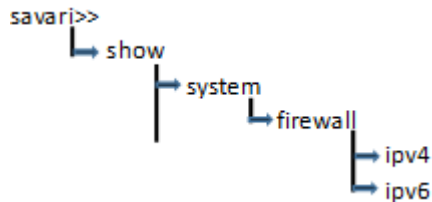
CLIs to view firewall

This section explains the CLI commands to view configuration values of system firewall

CLI Prompt: 'hostname>> level 1 level 2 level 3....?'

Example: 'StreetWAVE >> show system firewall'

The following map shows the sublevels of the system firewall.



The following table explains the sublevels of the firewall.

show	Option under show	Description
	system	Show System configuration
system	Option under system	Description
	firewall	Show all IPv4 rules
firewall	Option under firewall	Description
	list	Show all rules

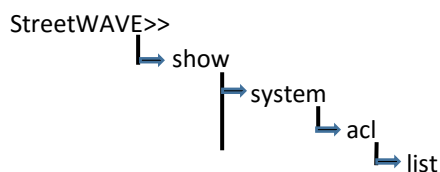
CLIs to view acl

This section explains the CLI commands to view configuration values of system acl

CLI Prompt: 'hostname>> level 1 level 2 level 3....?'

Example: 'StreetWAVE >> show system acl'

The following map shows the sublevels of the system acl.



The following table explains the sublevels of the acl.

show	Option under show	Description
	system	Show System configuration
system	Option under system	Description
	acl	Show acl configurations

acl	Option under acl	Description
	list	Show all acl IPv4 address

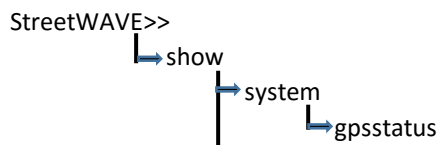
CLIs to view gpsstatus

This section explains the CLI commands to view configuration values of system gpsstatus.

CLI Prompt: 'hostname>> level 1 level 2 level 3....?'

Example: 'StreetWAVE >> show system gpsstatus'

The following map shows the sublevels of the system gpsstatus.



The following table explains the sublevels of the system gpsstatus

show	Option under show	Description
	system	Show System configuration
system	Option under system	Description
	gpsstatus	Show gps status

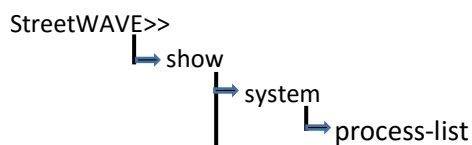
CLIs to view process-list

This section explains the CLI commands to view configuration values of system process-list.

CLI Prompt: 'hostname>> level 1 level 2 level 3....?'

Example: 'StreetWAVE >> show system process-list'

The following map shows the sublevels of the system process-list.



The following table explains the sublevels of the system process-list

show	Option under show	Description
	system	Show System configuration
system	Option under system	Description
	process-list	Show process list

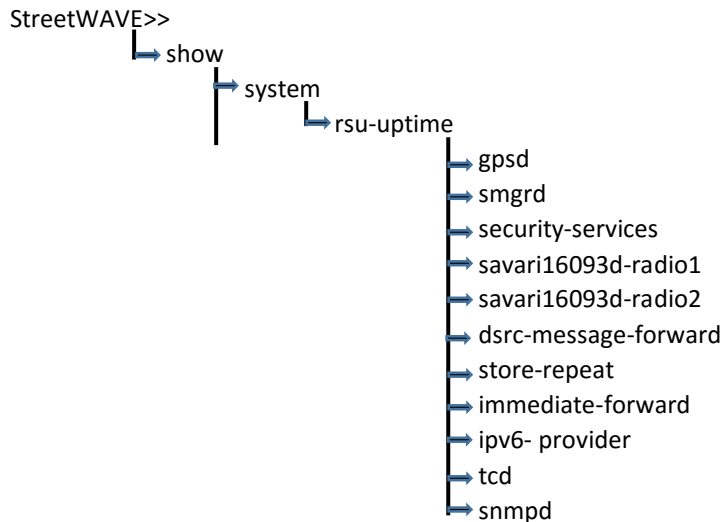
CLIs to view rsu-uptime

This section explains the CLI commands to view configuration values of system rsu-uptime.

CLI Prompt: 'hostname>> level 1 level 2 level 3....?'

Example: 'StreetWAVE >> show system rsu-uptime'

The following map shows the sublevels of the system rsu-uptime.



The following table explains the sublevels of the system rsu-uptime

show	Option under show	Description
	system	Show System configuration
system	Option under system	Description
	rsu-uptime	Show uptime for rsu processes
rsu-uptime	Option under rsu-uptime	Description
	gpsd	RSU uptime for gpsd
	smgrd	RSU uptime for smgrd
	security-services	RSU uptime for security-services
	savari16093d-radio1	RSU uptime for savari16093d-radio1
	savari16093d-radio2	RSU uptime for savari16093d-radio2
	dsrsrc-message-forward	RSU uptime for dsrsrc-message-forward
	store-repeat	RSU uptime for store-repeat
	immediate-forward	RSU uptime for immediate-forward
	ipv6-provider	RSU uptime for IPv6-provider
	tcd	RSU uptime for TCd

snmpd

RSU uptime for snmpd

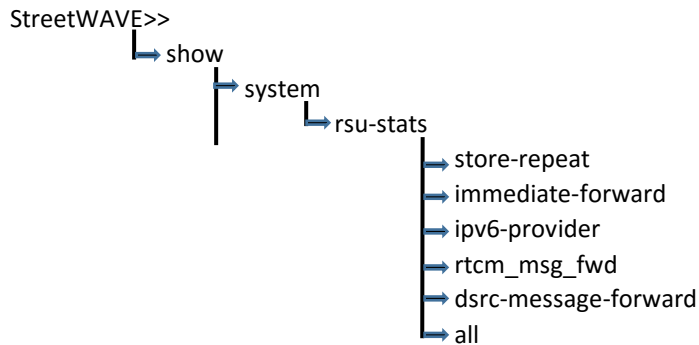
CLIs to view rsu-stats

This section explains the CLI commands to view configuration values of system rsu-stats.

CLI Prompt: 'hostname>> level 1 level 2 level 3....?'

Example: 'StreetWAVE >> show system rsu-stats'

The following map shows the sublevels of the system rsu-stats.



The following table explains the sublevels of the system rsu-stats

show	Option under show	Description
	system	Show System configuration
system	Option under system	Description
	rsu-stats	RSU stats for bsm_forward
rsu-stats	Option under rsu-stats	Description
	store-repeat	RSU stats for store-repeat
	immediate-forward	RSU stats for immediate-forward
	ipv6-provider	RSU stats for IPv6-provider
	rtcm_msg_fwd	RSU stats for rtcm_msg_fwd
	dsrsrc-message-forward	RSU stats for dsrsrc-message-forward
	all	RSU stats for all

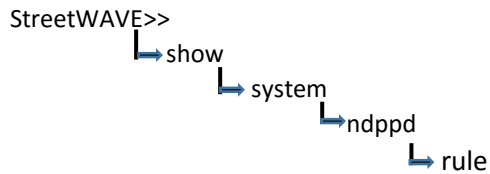
CLIs to view ndppd

This section explains the CLI commands to view configuration values of system ndppd.

CLI Prompt: 'hostname>> level 1 level 2 level 3....?'

Example: 'StreetWAVE >> show system ndppd'

The following map shows the sublevels of the system ndppd.



The following table explains the sublevels of the system ndppd

show	Option under show	Description
	system	Show System configuration
system	Option under system	Description
	ndppd	Show ip rule for ndppd
ndppd	Option under ndppd	Description
	rule	Show IP rule for ndppd

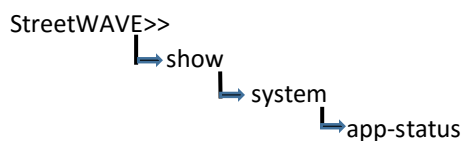
CLIs to view app-status

This section explains the CLI commands to view configuration values of system app-status.

CLI Prompt: 'hostname>> level 1 level 2 level 3....?'

Example: 'StreetWAVE >> show system app-status'

The following map shows the sublevels of the system app-status.



The following table explains the sublevels of the system app-status

show	Option under show	Description
	system	Show System configuration
system	Option under system	Description
	app-status	Show all application status

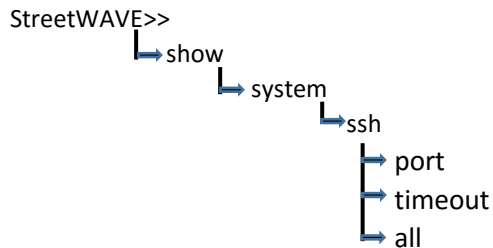
CLIs to view ssh

This section explains the CLI commands to view configuration values of system ssh.

CLI Prompt: 'hostname>> level 1 level 2 level 3....?'

Example: 'StreetWAVE >> show system ssh'

The following map shows the sublevels of the system ssh.



The following table explains the sublevels of the system ssh

show	Option under show	Description
	system	Show System configuration
system	Option under system	Description
	ssh	Show ssh configuration details
ssh	Options under ssh	Description
	port	Show ssh port number
	timout	Show ssh timeout value
	All	Show all ssh configuration details

*CLIs to view snmp-notification***Note:**

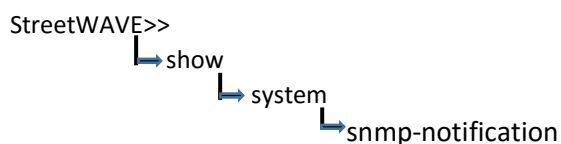
1. MIB_1213.txt Supports Version 2 with Password Public for both Read & Write.
2. RSU41FINAL3-MIB.TXT Supports Available Versions.

This section explains the CLI commands to view configuration values of system snmp-notification.

CLI Prompt: 'hostname>> level 1 level 2 level 3....?'

Example: 'StreetWAVE >> show system snmp-notification'

The following map shows the sublevels of the system snmp-notification.





The following table explains the sublevels of the system snmp-notification

show	Option under show	Description
	system	Show System configuration

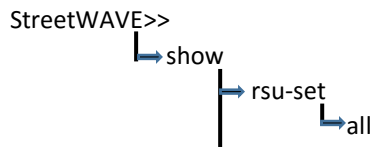
system	Option under system	Description
	snmp-notification	Show snmp-notification configuration details

snmp-notification	Options under snmp-notification	Description
	ipaddr	show snmp-notification notifier IP-address
	port	Show snmp-notification's port number
	all	Show all snmp-notification's configuration details

CLI to view rsu-set

This section explains the CLI commands to view configuration values of rsu-set of StreetWAVE™

The following map shows the sublevels of the rsu-set.



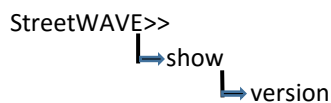
The following table explains the functions of the available CLI commands for rsu-set.

show	Option under show	Description
	rsu-set	Show all rsu-set slave IP address
rsu-set	Option under rsu-set	Description
	all	

CLI to view version

This section explains the CLI commands to view configuration values of version of StreetWAVE™

The following map shows the sublevels of the version.



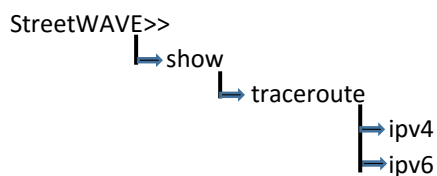
The following table explains the functions of the available CLI commands for version.

show	Option under show	Description
	version	Show RSU version

CLI to view traceroute

This section explains the CLI commands to view configuration values of traceroute of StreetWAVE™

The following map shows the sublevels of the traceroute.



The following table explains the functions of the available CLI commands for traceroute.

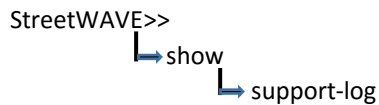
show	Option under show	Description
	traceroute	Show route packets trace to network hos
traceroute	Option under traceroute	Description

ipv4	Show IPv4 route packets trace to network host
ipv6	Show IPv6 route packets trace to network host

CLI to view support-log

This section explains the CLI commands to view configuration values of traceroute of StreetWAVE™

The following map shows the sublevels of the support-log.



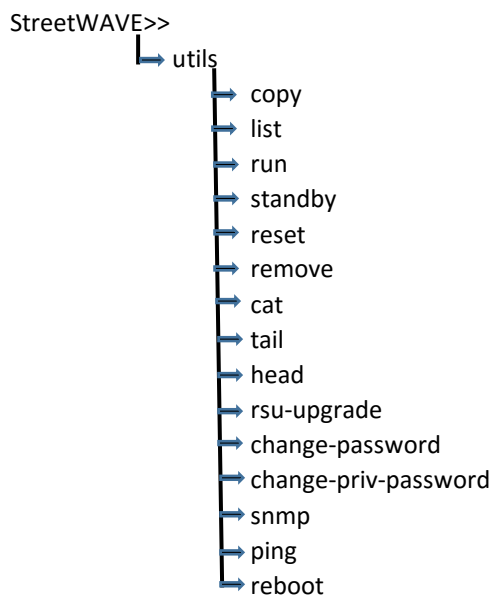
The following table explains the functions of the available CLI commands for traceroute.

show	Option under show	Description
	support-log	Generate log files for technical suport

utils

This section explains the sublevels to use other utils used as support for other applications of StreetWAVE™.

The following map shows the sublevels of show.



The following table explains the functions of available CLI commands for show.

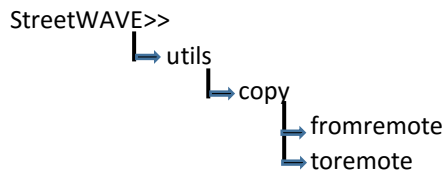
StreetWAVE>>	Option under StreetWAVE	Description
	utils	RSU utilities
utils	Option under utils	Description
	copy	Copy logs/certificates/db files to/from
	list	List out the logs/certificates/db files
	run	Set system into run state

standby	Set system into standby state
reset	Restore factory defaults
remove	Remove timdb/certificates files
cat	Concatenate given file and print them
tail	Print last 10 lines of given file
head	Print first 10 lines of given file
rsu-upgrade	RSU upgrade
change-password	Change RSU password
change-priv-password	Change RSU privilege-user password
snmp	Add new user to snmp USM
ping	Ping IP address
reboot	Reboot system

copy

This section explains the sublevels to copy files from or to StreetWAVE™ through a remote access.

The following map shows the sublevels of copy



The following table explains the functions of available CLI commands for copy.

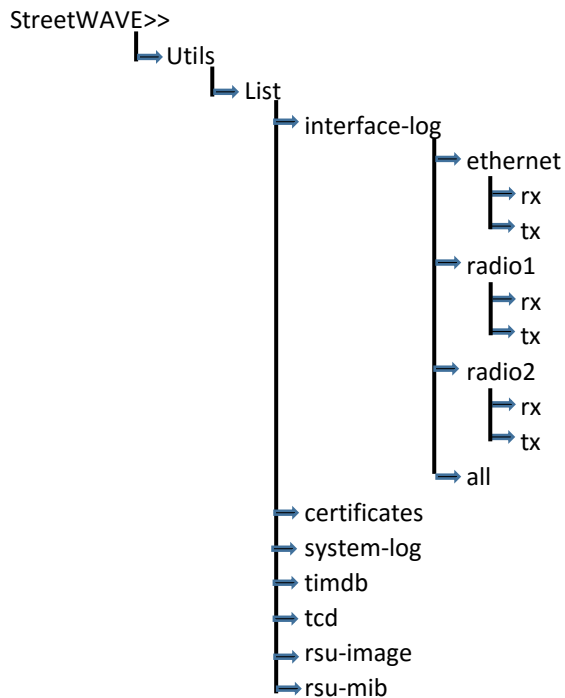
StreetWAVE>>	Option under StreetWAVE	Description
	utils	RSU utilities
utils	Option under utils	Description
	copy	Copy logs/certificates/db files to/from
copy	Option under copy	Description
	fromremote	<p>copy remote_username:scp://ipaddr:path/to/file dest(timdb system-log interface-log certs rsu-ib image tcd):filename {optional -p portnumber}</p> <p>example:copy root:scp://192.168.100.1:name.db timdb:timfile.db -p 51012</p> <p>example:copy root:scp://192.168.100.1:name.db timdb:timfile.db -p 51012</p>
	toremote	<p>copy src(timdb system-log interface log certs rsu-mib tcd):filename remote_username:scp:/ipaddr:path/to/file {optional -p portnumber}</p> <p>example:copy timdb:timfile.db root:scp:/192.168.100.1:name.db -p 51012></p>

Note:- To copy new certificates, copy the certificates along with decription key.

list

This section explains the sublevels to list files from RSU.

The following map shows the sublevels of list



The following table explains the functions of available CLI commands for list.

StreetWAVE>>	Option under StreetWAVE	Description
	utils	RSU utilities
utils	Option under utils	Description
	list	List out the logs/certificates/db files reside in RSU
list	Option under copy	Description
	interface-log	List out the interface-log files for received/transmitted packet at/by Ethernet /radio1 /radio2
	certificates	List out the certificates present in RSU
	system-log	List out the system-log present in RSU
	timdb	List out the TIMDB present in RSU
	tcd	List out the MAP file for Tcd present in RSU
	rsu-image	List out the image files present
	rsu-mib	List out the mib files present
Interface-log	Option under Interface-log	Description

	ethernet	List out the interface-log files for received/transmitted packet at/by ethernet
	radio1	List out the interface-log files for received/transmitted packet at/by radio1
	radio2	List out the interface-log files for received/transmitted packet at/by radio2
	all	List out all the interface-log files for received/transmitted packet
ethernet	Option under ethernet	Description
	rx	List out the interface-log files for received packet at ethernet
	tx	List out the interface-log files for transmitted packet by ethernet
radio1	Option under radio1	Description
	rx	List out the interface-log files for received packet at radio1
	tx	List out the interface-log files for transmitted packet by radio1
radio2	Option under radio2	Description
	rx	List out the interface-log files for received packet at radio2
	tx	List out the interface-log files for transmitted packet by radio2

run

This section explains the CLI to set RSU in run state.

The following map shows the sublevels of run

```
StreetWAVE>>  
└─ utils  
    └─ run
```

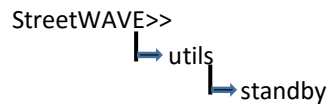
The following table explains the functions of available CLI commands for run.

StreetWAVE>>	Option under StreetWAVE	Description
	utils	RSU utilities
utils	Option under utils	Description
	run	Set system into run state

standby

This section explains the CLI to set RSU in standby.

The following map shows the sublevels of standby



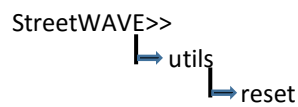
The following table explains the functions of available CLI commands for standby.

StreetWAVE>>	Option under StreetWAVE	Description
	utils	RSU utilities
utils	Option under utils	Description
	standby	Set system into standby state

reset

This section explains the CLI to reset factory defaults to RSU.

The following map shows the sublevels of reset



The following table explains the functions of available CLI commands for reset.

StreetWAVE>>	Option under StreetWAVE	Description
	utils	RSU utilities
utils	Option under utils	Description
	reset	Restore factory defaults

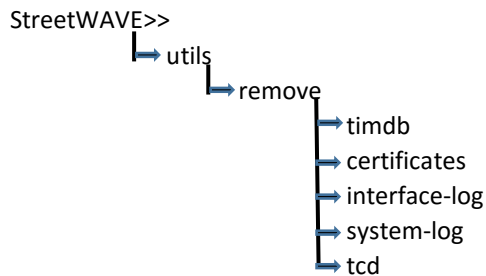
When you reset, only the following applications will reset.

DsrcForward	GpsOutput	Tim	Pcap logging
RSUSets	Tcd	Radio	
DsrcProxy	rsu-mib.txt	Sample_Map_Haggerty_12mile.xml	ipv6app

remove

This section explains the CLI to remove timdb and certificate files.

The following map shows the sublevels of enable



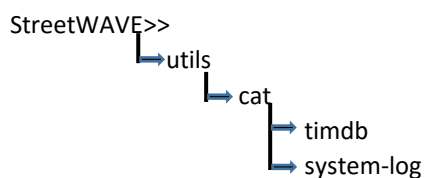
The following table explains the functions of available CLI commands for enable.

StreetWAVE>>	Option under StreetWAVE	Description
	utils	RSU utilities
utils	Option under utils	Description
	remove	Remove timdb/certificates files
remove	Option under remove	Description
	timdb	Remove timdb files
	certificates	Remove certificates files
	interface-log	Remove interface-log files
	system-log	Remove system-log files
	tcd	Remove tcd files

cat

This section explains the CLI cat, this is used to view contents of a given file.

The following map shows the sublevels of cat



The following table explains the functions of available CLI commands for cat.

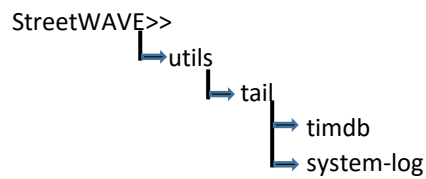
StreetWAVE>>	Option under StreetWAVE	Description
	utils	RSU utilities
utils	Option under utils	Description

	cat	Display contents of TIM DB/system-log files
cat	Option under cat	Description
	timdb	Display contents of TIM DB file
	system-log	Display contents of system-log file

tail

This section explains the CLI tail, this is used to print the last 10 lines of a given file.

The following map shows the sublevels of tail



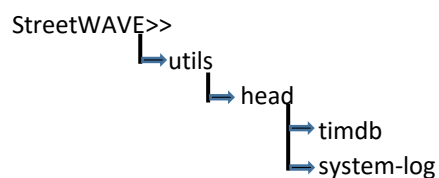
The following table explains the functions of available CLI commands for cat.

StreetWAVE>>	Option under StreetWAVE	Description
	utils	RSU utilities
utils	Option under utils	Description
	tail	Concatenate given file and print them to stdout
tail	Option under tail	Description
	timdb	Print last 10 lines given timdb file
	system-log	Print last 10 lines given system-log file

head

This section explains the CLI head, this is used to print the first 10 lines of a given file.

The following map shows the sublevels of head



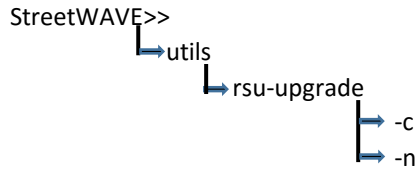
The following table explains the functions of available CLI commands for head.

StreetWAVE>>	Option under StreetWAVE	Description
	utils	RSU utilities
utils	Option under utils	Description
	head	Concatenate given file and print them to stdout
head	Option under head	Description
	timdb	Print first 10 lines given timdb file
	system-log	Print first 10 lines given system-log file

rsu-upgrade

This section explains the CLI rsu-upgrade, this is used to upgrade the operating system of RSU with a patch or new release.

The following map shows the sublevels of rsu-upgrade



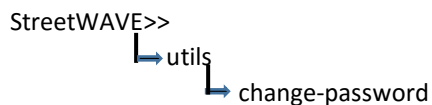
The following table explains the functions of available CLI commands for rsu-upgrade.

StreetWAVE>>	Option under StreetWAVE	Description
	utils	RSU utilities
utils	Option under utils	Description
	rsu-upgrade	RSU upgrade. -c: clean upgrade, -n: retain network
		Settings, no option: retain old configuration.
rsu-upgrade	Option under rsu-upgrade	Description
	-c	RSU upgrade clean
	-n	RSU upgrade retain previous network settings

Change-password

This section explains the CLI change, this is used to change password to RSU.

The following map shows the sublevels of change



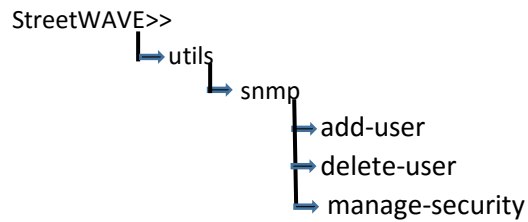
The following table explains the functions of available CLI commands for change.

StreetWAVE>>	Option under StreetWAVE	Description
	utils	RSU utilities
utils	Option under utils	Description
	Change-password	Change RSU password
Change-password	Option under rsu-upgrade	Description
	change-Password	Change RSU password

Snmp

This section explains the CLI to add and/or delete a user and manage security.

The following map shows the sublevels of snmp

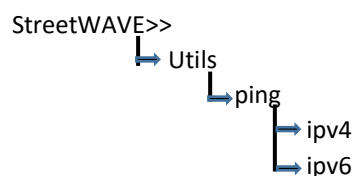


StreetWAVE>>	Option under StreetWAVE	Description
	utils	RSU utilities
utils	Option under utils	Description
	snmp	Add new user to snmp USM
snmp	Option under snmp	Description
	add-user	Add new user to snmp USM
	delete-user	Delete existing user from snmp USM
	manage-security	Modify security level for snmp user

ping

This section explains the CLI ping, this is used to verify the status of an IP address.

The following map shows the sublevels of ping



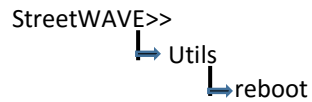
The following table explains the functions of available CLI commands for ping.

StreetWAVE>>	Option under StreetWAVE	Description
	utils	RSU utilities
utils	Option under utils	Description
	ping	Ping IP address
ping	Option under ping	Description
	ipv4	Ping IPv4 address/hostname
	ipv6	Ping IPv6 address/hostname

reboot

This section explains the CLI reboot, this is used to re-start RSU.

The following map shows the sublevels of reboot



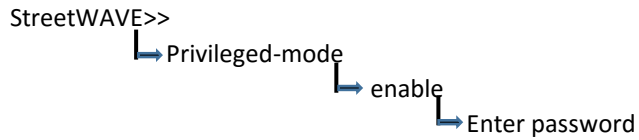
The following table explains the functions of available CLI commands for reboot.

StreetWAVE>>	Option under StreetWAVE	Description
	utils	RSU utilities
utils	Option under utils	Description
	reboot	Reboot system
reboot	Option under reboot	Description
	Status	Show reboot status

Privileged-mode

This section explains the CLI to switch from executive mode to privilege mode. To switch from executive mode to privilege mode, you will need a password.

The following map shows the sublevels of enable



The following table explains the functions of available CLI commands for enable.

StreetWAVE>>	Option under StreetWAVE	Description
	Privileged-mode	Enable privileged-mode
Privileged-mode	Option under Privileged-mode	Description
	enable	Enable privileged mode
	enter password	Gateway to privileged-mode

exit

This section explains the CLI reboot, this is used to exit from the system.

The following map shows the sublevels of exit



The following table explains the functions of available CLI commands for exit.

StreetWAVE>>	Option under StreetWAVE	Description
	exit	Exit system