

# KEENETIC

# SPRINTER

AX1800 Mesh Wi-Fi 6 Gigabit Router/Extender  
with a 4-Port Gigabit Smart Switch

## Command Reference Guide

|            |                    |
|------------|--------------------|
| Model      | Sprinter (KN-3710) |
| OS Version | 5.0                |
| Edition    | 1.164 30.01.2026   |



# Preface

This guide contains Command-Line Interface (CLI) commands to maintain the Sprinter device. This guide provides a complete listing of all possible commands. The other chapters provide examples of how to implement the most common of these commands, general information on the interrelationships between the commands and the conceptual background of how to use them.

## 1 Readership

This guide is for the networking or computer technician responsible for configuring and maintaining the Sprinter on-site. It is also intended for the operator who manages the Sprinter. This manual cover high-level technical support procedures available to Root administrators and Sprinter technical support personnel.

## 2 Organization

This manual covers the following topics:

|                         |                                                                                                                                         |
|-------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|
| Introduction to the CLI | Describes how to use the Sprinter Command-Line Interface (CLI), its hierarchical structure, authorization levels and its help features. |
| Command Reference       | Provides an alphabetical list of the available CLI commands that you can use to configure the Sprinter device.                          |

## 3 Document Conventions

Command descriptions use the following conventions:

|                        |                                                                                                                               |
|------------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>boldface</b> font   | Commands and keywords are in <b>boldface</b> . Must be typed exactly as shown. Bold font is used as a user input in examples. |
| <i>italic</i> font     | Arguments for which you supply values are in <i>italics</i> .                                                                 |
| [ <i>optional</i> ]    | Elements in square brackets are optional.                                                                                     |
| ⟨ <i>replaceable</i> ⟩ | Elements in angle brackets are replaceable.                                                                                   |
| (x   y   z)            | Alternative keywords are grouped in round brackets and separated by vertical bars.                                            |
| [x   y   z]            | Optional alternative keywords are grouped in brackets and separated by vertical bars.                                         |

Each command description is broken down into the following sub-sections:

|                  |                                                                                                                                                                                                                                                  |
|------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Description      | Description of what the command does.                                                                                                                                                                                                            |
| Synopsis         | The general format of the command.                                                                                                                                                                                                               |
| Prefix <b>no</b> | The possibility of using <b>no</b> prefix with command.                                                                                                                                                                                          |
| Change settings  | The ability of command to change the settings.                                                                                                                                                                                                   |
| Multiple input   | The possibility of multiple input.                                                                                                                                                                                                               |
| Group entry      | Name of the group that owns the command. If there is no group, this section does not displayed.                                                                                                                                                  |
| Interface type   | Type of interface, which can be managed by the command. The section does not displayed, if this context has no meaning for the command.<br><br>Interfaces used in the system and the relationships between them are shown in the diagrams below. |
| Arguments        | List of arguments if they exists, and explanations to them.                                                                                                                                                                                      |
| Example          | An illustration of how the command looks when invoked. Because the interface is straightforward, some of the examples are obvious, but they are included for clarity.                                                                            |

Notes, cautionary statements, and safety warnings use these conventions.

Note: Means "reader take note". Notes contain helpful suggestions or references to materials not contained in this manual.

Warning: Means "reader be careful". You are capable of doing something that might result in equipment damage or loss of data.

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# Product Overview

## 1.1 Hardware Configuration

**CPU** EcoNet EN7528DU/DA MIPS® 1004Kc 900MHz, 2 cores / 4 threads

**RAM** 256MB DDR3 (on-die)

**Flash** 128MB: Kioxia TC58CVG0S3HRAIJ, Winbond 5N01GVZEIG, XTX XT26G01CWSIGA

**Ethernet**

| Ports | Chipset    | Notes |
|-------|------------|-------|
| 4     | Integrated |       |

| Label | Speed     | Notes    |
|-------|-----------|----------|
| 0     | 1000 Mbps | WAN port |
| 1     | 1000 Mbps |          |
| 2     | 1000 Mbps |          |
| 3     | 1000 Mbps |          |

**Wi-Fi**

| Band    | Chipset           | Notes        |
|---------|-------------------|--------------|
| 2.4 GHz | MediaTek MT7905DA | 802.11ax 2x2 |
| 5 GHz   |                   |              |



# Introduction to the CLI

This chapter describes how to use the Sprinter Command-Line Interface (CLI), its hierarchical structure, authorization levels and its help features.

The primary tool for managing the Sprinter router is the command line interface ([CLI](#)). System settings can be defined as a sequence of commands, which can be executed to bring the device to the specified condition.

Sprinter has three types of settings:

|                       |                                                                                                                                                                                                                                                                                                                                 |
|-----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Current settings      | <i>running config</i> is a set of commands describing the current status of the system. Current settings are stored in RAM and reflect every change of the system settings. However, the content of RAM is lost when the device is turned off. To restore the settings after reboot, they must be saved in non-volatile memory. |
| Startup configuration | <i>startup config</i> is a sequence of commands, which is stored in a specific partition of the non-volatile memory. It is used to initialize the system immediately after startup.                                                                                                                                             |
| Default settings      | <i>default config</i> contains factory default settings of Sprinter. RESET button is used to reset startup configuration to the factory default.                                                                                                                                                                                |

Files startup-config and running-config can be edited manually, without participation of the command line. It should be remembered that the lines with ! in the beginning are ignored by the parser and the arguments which contain spaces must be enclosed in double quotes (for example, ssid "Free Wi-Fi"). Quotes themselves are ignored by the parser.

Responsibility for the accuracy of the changes rests with their author.

## 2.1 Enter commands in the CLI

Command line interpreter in Sprinter is designed for beginners as well as experts. All command names and options are clear and easy to remember.

Commands are divided into groups and arranged in a hierarchy. Thus, to do a setting, the operator needs to enter a sequence of nested command group names (node commands), and then enter the final command with parameters.

For example, IP-address of the GigabitEthernet1 network interface is set using the **address** command, which is located in the **interface** → **ip** group:

```
(config)>interface GigabitEthernet1 ip address 192.168.15.43/24
Network address saved.
```

## 2.1.1 Entering a group

Some of the node commands (containing a group of child commands) can be “entered” to allow direct executing of the child commands without typing the node name as prefix. In this case the prompt is changed to indicate the entered group.

The **exit** command or [Ctrl]+[D] key combination can be used to exit a group.

For example, after entering the interface group the command line prompt is changed to (config-if):

```
(config)>interface GigabitEthernet1
(config-if)>ip address 192.168.15.43/24
Network address saved.
(config-if)>[Ctrl]+[D]
(config)>
```

## 2.2 Getting Help and auto-completion

To make the configuring process as comfortable as possible, the CLI provides auto-completion of commands and parameters, hinting the operator, which commands are available at the current level of nesting. Auto-completion works by pressing [Tab]. Example:

```
(config)>in[Tab]

interface - network interface configuration

(config)> interface Gi[Tab]

Usage template:
interface {name}

Variants:
GigabitEthernet0
GigabitEthernet0/Vlan1
GigabitEthernet1

(config)> interface GigabitEthernet0[Tab]

Usage template:
interface {name}

Variants:
GigabitEthernet0/Vlan1
GigabitEthernet1

(config)> interface GigabitEthernet0[Enter]
(config-if)> ip[Tab]

address - set interface IP address
alias - add interface IP alias
dhcp - enable dhcp client
```

```

        mtu - set Maximum Transmit Unit size
        mru - set Maximum Receive Unit size
    access-group - bind access-control rules
        apn - set 3G access point name

(config-if)> ip ad[Tab]

        address - set interface IP address

(config-if)> ip address[Tab]

Usage template:
address {address} {mask}

(config-if)> ip address 192.168.15.43[Enter]
Configurator error[852002]: address: argument parse error.
(config-if)> ip address 192.168.15.43/24[Enter]
Network address saved.
(config-if)>

```

Hint for the current command can always be displayed by pressing [Tab]. Example:

```

(config)> interface GigabitEthernet1 [Tab]

        description - set interface description
        alias - add interface name alias
        mac-address - set interface MAC address
        dyndns - DynDns updates
        security-level - assign security level
        authentication - configure authentication
            ip - set interface IP parameters
            igmp - set interface IGMP parameters
            up - enable interface
            down - disable interface

(config)> interface GigabitEthernet1

```

## 2.3 Prefix no

Prefix **no** is used to negate a command.

For example, the command **interface** is responsible for creating a network interface with the given name. When used with this command, prefix **no** causes the opposite action — removing of the interface:

```

(config)> no interface PPPoE0

```

If the command is composite, **no** can be placed in front of any member. For example, **service dhcp** enables the *DHCP* service. It consists of two parts: **service** — the group name in the hierarchy of commands, and **dhcp** — the final command. Prefix **no** can be placed either at the beginning, or in the middle. The action is the same in both cases: stopping of the service.

```
(config)> no service dhcp
(config)> service no dhcp
```

## 2.4 Multiple input

Many commands have the property of *idempotence*, which means that multiple input of a command has the same effect as the single input. For example, entering **service http** adds a single line “service http” to the current settings, and re-entering does not change anything.

However, some of the commands allow you to add not a single, but multiple records, if they are entered with different arguments. For example, static routing table entries **ip route** or filters **access-list** are added sequentially and appear in the settings as a list:

### Example 2.1. Using a command with multiple input

```
(config)> ip route 1.1.1.0/24 PPTP0
Network::RoutingTable: Added static route: 1.1.1.0/24 via PPTP0.
(config)> ip route 1.1.2.0/24 PPTP0
Network::RoutingTable: Added static route: 1.1.2.0/24 via PPTP0.
(config)> ip route 1.1.3.0/24 PPTP1
Network::RoutingTable: Added static route: 1.1.3.0/24 via PPTP1.
(config)> show running-config
...
ip route 1.1.1.0 255.255.255.0 PPTP0
ip route 1.1.2.0 255.255.255.0 PPTP0
ip route 1.1.3.0 255.255.255.0 PPTP1
...
```

Records from such tables can be removed one by one, using prefix **no** and arguments to identify the record you want to remove:

```
(config)> no ip route 1.1.2.0/24
Network::RoutingTable: Deleted static route: 1.1.2.0/24 via PPTP0.
(config)> show running-config
...
ip route 1.1.1.0 255.255.255.0 PPTP0
ip route 1.1.3.0 255.255.255.0 PPTP1
...
```

## 2.5 Saving to startup settings

Current and startup settings are stored in the files `running-config` and `startup-config`, respectively. To save the current settings in the non-volatile memory, copy them as shown below:

```
(config)> copy running-config startup-config
Copied: running-config -> startup-config
```



## 2.6 Delayed restart

If Sprinter device is located away from the operator and is managed remotely, there is a risk to lose control over it because of a misoperation. In this case it will be difficult to reboot and return to the saved settings.

The **system reboot** command lets you set a delayed restart timer, perform “risky” settings, then turn off the timer and save the changes. If connection to the device is lost during configuration, the operator will be enough to wait for automatic reboot and connect to the device again.



# Command Reference

## 3.1 Core commands

Core commands are used to manage files on your device.

### 3.1.1 copy

**Description** Copy the contents of one file to another. Used for the firmware updating, saving the current settings, resetting to factory, etc.

**Prefix no** No

**Change settings** No

**Multiple input** No

**Synopsis** `(config)> copy <source> <destination>`

**Arguments**

| Argument    | Value           | Description                                                       |
|-------------|-----------------|-------------------------------------------------------------------|
| source      | <i>Filename</i> | Full path to the file to be copied in <file system>:<path> format |
| destination | <i>Filename</i> | Full path to the directory for the new file.                      |

**Example**

Current settings can be saved as follows:

```
(config)> copy running-config startup-config
```

```
(config)> copy log MyPassport:/log.txt
```

File names in this example are aliases. Full names of the configuration files are system:running-config and flash:startup-config, respectively.

**History**

| Version | Description                                  |
|---------|----------------------------------------------|
| 2.00    | The <b>copy</b> command has been introduced. |

### 3.1.2 erase

**Description** Delete a file from the Sprinter device.

**Prefix no** No

**Change settings** Yes

**Multiple input** Yes

**Synopsis** `(config)> erase <filename>`

| Arguments | Argument | Value           | Description                       |
|-----------|----------|-----------------|-----------------------------------|
|           | filename | <i>Filename</i> | Specifies the file to be removed. |

**Example** `(config)> erase ext-opkg:/dlna_files.db`  
FileSystem::Repository: "ext-opkg:/dlna\_files.db" erased.

| History | Version | Description                                   |
|---------|---------|-----------------------------------------------|
|         | 2.00    | The <b>erase</b> command has been introduced. |

## 3.1.3 exit

**Description** Leave the command node.

**Prefix no** No

**Change settings** No

**Multiple input** No

**Synopsis** `(config)> exit`

**Example** `(show)> exit`  
Core::Configurator: Done.  
`(config)>`

| History | Version | Description                                  |
|---------|---------|----------------------------------------------|
|         | 2.00    | The <b>exit</b> command has been introduced. |

## 3.1.4 grep

**Description** Filter and search for lines containing a match to the given pattern in [show](#) command output.

**Prefix no** No

**Change settings** No

**Multiple input** No

**Synopsis**

```
(show)> <command> | grep [-A <a>] [-B <b>] [-C <c>] <pattern>
```

**Arguments**

| Argument | Value         | Description                                                                                       |
|----------|---------------|---------------------------------------------------------------------------------------------------|
| command  | <i>String</i> | Command name.                                                                                     |
| a        | <i>String</i> | Number of lines to show after match.                                                              |
| b        | <i>String</i> | Number of lines to show before match.                                                             |
| c        | <i>String</i> | Nesting depth of XML context.                                                                     |
| pattern  | <i>String</i> | A regular expression to search for node names or values in the XML response from the system core. |

**Example**

```
(show)> version | grep dual_image
```

```
ndw:
features: dual_image,usb_3,single_usb_port,
          led_control,wifi_button, wifi5ghz,vht2ghz,mimo2ghz,
          mimo5ghz,atf2ghz,atf5ghz,wifi6,wifi_ft,wpa3,hwnat,
          hwnat_mib,link_agg,lte
```

```
(show)> version | grep -A 1 dual_image
```

```
ndw:
version: 4.1.2.17.1
features: dual_image,wifi_button,usb_3,usb_3_first,
          led_control,wifi5ghz,vht2ghz,mimo2ghz,mimo5ghz,atf2ghz,
          atf5ghz,wifi6,wifi_ft,wpa3,wsa5ghz,hwnat,sfp
```

```
(show)> version | grep -B 1 dual_image
```

```
ndw:
features: dual_image,wifi_button,usb_3,usb_3_first,led_control,
          wifi5ghz,vht2ghz,mimo2ghz,mimo5ghz,atf2ghz,atf5ghz,
          wifi6,wifi_ft,wpa3,wsa5ghz,hwnat,sfp
components: acl,afp,base,chilli,cloudcontrol,corewireless,
            ddns,dhcpd,dlna,dns-filter,dns-https,dns-tls,dot1x,
            easyconfig,eoip,exfat,ext,fat,ftp,gre,hfsplus,igmp,
            ike-client,ip6,ipip,ipsec,kabinet,l2tp,lang-en,
            lang-ru,mdns,miniupnpd,monitor,mws,nathelper-esp,
            nathelper-ftp,nathelper-h323,nathelper-pptp,
            nathelper-rtsp,nathelper-sip,ndmp,ndns,netflow,
            nextdns,ntce,ntfs,nvox,ocserver,openvpn,opkg,
            opkg-kmod-audio,opkg-kmod-dvb-tuner,opkg-kmod-fs,
            opkg-kmod-netfilter,opkg-kmod-netfilter-addons,
            opkg-kmod-tc,opkg-kmod-usbip,opkg-kmod-video,
            pingcheck,ppe,pppoe,pptp,proxy,sftp,skydns,snmp,ssh,
            sstp,sstp-server,storage,trafficcontrol,
            transmission,tsmb,udpxy,usb,usbdsi,usblte,usbmodem,
            usbnet,usbnet-extra,usbqmi,usbserial-extra,
            vpnserver,vpnserver-l2tp,webdav,wireguard,wpa-eap,
            zerotier
```

```
(show)> version | grep -C 1 dual_image
```

```

    ndw:
      version: 4.1.2.17.1
    features: dual_image,wifi_button,usb_3,usb_3_first,led_control,
              wifi5ghz,vht2ghz,mimo2ghz,mimo5ghz,atf2ghz,atf5ghz,
              wifi6,wifi_ft,wpa3,wsa5ghz,hwnat,sfp
    components: acl,afp,base,chilli,cloudcontrol,corewireless,ddns,
                 dhcpd,dlna,dns-filter,dns-https,dns-tls,dot1x,
                 easyconfig,eoip,exfat,ext,fat,ftp,gre,hfsplus,igmp,
                 ike-client,ip6,ipip,ipsec,kabinet,l2tp,lang-en,mdns,
                 miniupnpd,monitor,mws,nathelper-esp,nathelper-ftp,
                 nathelper-h323,nathelper-pptp,nathelper-rtsp,
                 nathelper-sip,ndmp,ndns,netflow,nextdns,ntce,ntfs,
                 nvox,ocserver,openvpn,opkg,opkg-kmod-audio,
                 opkg-kmod-dvb-tuner,opkg-kmod-fs,opkg-kmod-netfilter,
                 opkg-kmod-netfilter-addons,opkg-kmod-tc,
                 opkg-kmod-usbip,opkg-kmod-video,pingcheck,ppe,pppoe,
                 pptp,proxy,sftp,skydns,snmp,ssh,sstp,sstp-server,
                 storage,trafficcontrol,transmission,tsmb,udpxy,usb,
                 usbdsl,usblte,usbmodem,usbnet,usbnet-extra,usbqmi,
                 usbserial-extra,vpnserver,vpnserver-l2tp,webdav,
                 wireguard,wpa-eap,zerotier

```

```
(show)> version | grep -C 2 dual_image
```

```

    release: 5.00.C.2.0-2
    sandbox: preview
    title: 5.0.2
    arch: aarch64

    ndm:
      exact: 0-a654284
      cdate: 3 Dec 2025

    bsp:
      exact: 0-e7c92fbd89
      cdate: 3 Dec 2025

    ndw:
      features: ►
dual_image,usb_3,usb_3_first,led_control,wifi_button,wifi5ghz,
vht2ghz,mimo2ghz,mimo5ghz,atf2ghz,atf5ghz,wifi6,wifi_ft,wpa3...
      components: ►
acl,afp,base,chilli,cloudcontrol,corewireless,ddns,dhcpd,dlna,
dns-filter,dns-https,dns-tls,dot1x,easyconfig,eoip,exfat...

    ndw3:
      version: 5.0.43

    ndw4:
      version: 5.0.C.2.1

    manufacturer: Keenetic Ltd.

```

```

        vendor: Keenetic
        series: KN
        model: Sprinter (KN-3710)
    hw_version: 12108000
    hw_type: router
    hw_id: KN-3710
    device: Sprinter
    consent: EA
    region: EA
    description: Keenetic Sprinter (KN-3710)

```

**History**

| Version | Description                                 |
|---------|---------------------------------------------|
| 4.02    | The <b>grep</b> filter has been introduced. |

## 3.1.5 ls

**Description**

Display list of files from the specified directory.

**Prefix no**

No

**Change settings**

No

**Multiple input**

No

**Synopsis**

```
(config)>  ls [ <directory> ]
```

**Arguments**

| Argument  | Value         | Description                                                                                                                                                                                           |
|-----------|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| directory | <i>String</i> | Path to the directory. Must contain the name of the file system and path to the folder directly in the following format <file system>:<path>. Examples of file systems — flash, temp, proc, usb. etc. |

**Example**

```

(config)> ls FILES:

    rel: FILES:

    entry, type = D:
        name: com

    entry, type = R:
        name: IMAX.mkv
        size: 1886912512

    entry, type = D:
        name: speedfan

    entry, type = D:
        name: portable

```

```
entry, type = D:
  name: video

entry, type = D:
  name: Новая папка
```

**History**

| Version | Description                                |
|---------|--------------------------------------------|
| 2.00    | The <b>ls</b> command has been introduced. |

## 3.1.6 mkdir

**Description**

Create a new directory.

**Prefix no**

No

**Change settings**

No

**Multiple input**

No

**Synopsis**

```
(config)>  mkdir <directory>
```

**Arguments**

| Argument  | Value         | Description            |
|-----------|---------------|------------------------|
| directory | <i>String</i> | Path to the directory. |

**Example**

```
(config)> mkdir SANDSK:/test
FileSystem::Repository: "SANDSK:/test" created.
```

```
(config)> mkdir SANDSK:/test/onetest
FileSystem::Repository: "SANDSK:/test/onetest" created.
```

**History**

| Version | Description                                   |
|---------|-----------------------------------------------|
| 2.12    | The <b>mkdir</b> command has been introduced. |

## 3.1.7 more

**Description**

Display the contents of a text file line by line.

**Prefix no**

No

**Change settings**

No

**Multiple input**

No

**Synopsis**

```
(config)>  more <filename>
```



**Arguments**

| Argument | Value           | Description                     |
|----------|-----------------|---------------------------------|
| filename | <i>Filename</i> | Full path to the file or alias. |

**Example**

```
(config)> more temp:/resolv.conf
nameserver 127.0.0.1
options timeout:1 attempts:1 rotate
```

**History**

| Version | Description                                  |
|---------|----------------------------------------------|
| 2.00    | The <b>more</b> command has been introduced. |

## 3.2 access-list

**Description**

Access to a group of commands to configure the selected list of packet filtering rules. If the list is not found, the command tries to create it. Such a list can be assigned to a network interface using [interface ip access-group](#) command.

Command with **no** prefix removes the list of rules.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

Yes

**Group entry**

(config-acl)

**Synopsis**

```
(config)> access-list <name>
```

```
(config)> no access-list <name>
```

**Arguments**

| Argument | Value         | Description                                                             |
|----------|---------------|-------------------------------------------------------------------------|
| name     | <i>String</i> | Filtering rules list name ( <a href="#">Access Control List</a> , ACL). |

**Example**

```
(config)> access-list test_acl
Network::Acl: "test_acl" access list created.
(config-acl)>
```

```
(config)> no access-list test_acl
Network::Acl: "test_acl" access list removed.
```

**History**

| Version | Description                                         |
|---------|-----------------------------------------------------|
| 2.00    | The <b>access-list</b> command has been introduced. |

## 3.2.1 access-list auto-delete

| <b>Description</b>     | <p>Enable automatic deletion of the <a href="#">ACL</a> rules when deleting an interface. The command is forced on access lists with the <code>_WEBADMIN_</code> prefix.</p> <p>The command cannot be enabled if there are no bound interfaces. The exception is reading the startup-config.</p> <p>Command with <b>no</b> prefix disables automatic deletion.</p> |         |             |      |                                                                 |
|------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|-------------|------|-----------------------------------------------------------------|
| <b>Prefix no</b>       | Yes                                                                                                                                                                                                                                                                                                                                                                |         |             |      |                                                                 |
| <b>Change settings</b> | Yes                                                                                                                                                                                                                                                                                                                                                                |         |             |      |                                                                 |
| <b>Multiple input</b>  | No                                                                                                                                                                                                                                                                                                                                                                 |         |             |      |                                                                 |
| <b>Synopsis</b>        | <pre>(config-acl)&gt;  auto-delete (config-acl)&gt; no auto-delete</pre>                                                                                                                                                                                                                                                                                           |         |             |      |                                                                 |
| <b>Example</b>         | <pre>(config-acl)&gt; auto-delete Network::Acl: Enabled auto-deletion for "_WEBADMIN_Home" access ► group.</pre> <pre>(config-acl)&gt; no auto-delete Network::Acl: Disabled auto-deletion for "_WEBADMIN_Home" access ► group.</pre>                                                                                                                              |         |             |      |                                                                 |
| <b>History</b>         | <table border="1"> <thead> <tr> <th>Version</th><th>Description</th></tr> </thead> <tbody> <tr> <td>3.09</td><td>The <b>access-list auto-delete</b> command has been introduced.</td></tr> </tbody> </table>                                                                                                                                                       | Version | Description | 3.09 | The <b>access-list auto-delete</b> command has been introduced. |
| Version                | Description                                                                                                                                                                                                                                                                                                                                                        |         |             |      |                                                                 |
| 3.09                   | The <b>access-list auto-delete</b> command has been introduced.                                                                                                                                                                                                                                                                                                    |         |             |      |                                                                 |

## 3.2.2 access-list deny

|                        |                                                                                                                                                                                                                                                                                                                                                                                          |
|------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Description</b>     | <p>Add a packet filtering deny rule into a specified <a href="#">ACL</a>.</p> <p>Command with <b>no</b> prefix removes the rule.</p>                                                                                                                                                                                                                                                     |
| <b>Prefix no</b>       | Yes                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Change settings</b> | Yes                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Multiple input</b>  | Yes                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Synopsis</b>        | <pre>(config-acl)&gt;  deny (tcp   udp) &lt;source&gt; &lt;source-mask&gt; [ port( ( &lt;src-port-operator&gt; &lt;source-port&gt; )   ( range &lt;source-port&gt; &lt;source-end-port&gt; ) ) ] &lt;destination&gt; &lt;destination-mask&gt; [ port( ( &lt;dst-port-operator&gt; &lt;destination-port&gt; )   ( range &lt;destination-port&gt; &lt;destination-end-port&gt; ) ) ]</pre> |

```
(config-acl)> deny (icmp | esp | gre | ipip | ip) <source> <source-mask>
<destination> <destination-mask>
```

```
(config-acl)> no deny (tcp | udp) <source> <source-mask>
[ port( ( <src-port-operator> <source-port> ) |
( range <source-port> <source-end-port> ) )]
<destination> <destination-mask>
[ port( ( <dst-port-operator> <destination-port> ) |
( range <destination-port> <destination-end-port> ) )]
```

```
(config-acl)> no deny (icmp | esp | gre | ipip | ip) <source> <source-mask>
<destination> <destination-mask>
```

## Arguments

| Argument          | Value             | Description                                                                                                                                                                                                                                            |
|-------------------|-------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| tcp               | Keyword           | <a href="#">TCP</a> protocol.                                                                                                                                                                                                                          |
| udp               | Keyword           | <a href="#">UDP</a> protocol.                                                                                                                                                                                                                          |
| icmp              | Keyword           | <a href="#">ICMP</a> protocol.                                                                                                                                                                                                                         |
| esp               | Keyword           | <a href="#">ESP</a> protocol.                                                                                                                                                                                                                          |
| gre               | Keyword           | <a href="#">GRE</a> protocol.                                                                                                                                                                                                                          |
| ipip              | Keyword           | <a href="#">IP in IP</a> protocol.                                                                                                                                                                                                                     |
| ip                | Keyword           | <a href="#">IP</a> protocol (include <a href="#">TCP</a> , <a href="#">UDP</a> , <a href="#">ICMP</a> and other).                                                                                                                                      |
| source            | <i>IP address</i> | The source address in the header of IP-packet.                                                                                                                                                                                                         |
| source-mask       | <i>IP-mask</i>    | Mask to be applied to the source address in the header of IP-packet before comparison with <i>source</i> . There are two ways to enter the mask: the canonical form (for example, 255.255.255.0) and the form of prefix bit length (for example, /24). |
| source-port       | <i>Integer</i>    | Source port in the <a href="#">TCP</a> or <a href="#">UDP</a> header.                                                                                                                                                                                  |
| source-end-port   | <i>Integer</i>    | The end of the source range of ports.                                                                                                                                                                                                                  |
| src-port-operator | lt                | Operator “less” to compare the port with the specified <i>source-port</i> .                                                                                                                                                                            |
|                   | eq                | Operator “equal” to compare the port with the specified <i>source-port</i> .                                                                                                                                                                           |
|                   | gt                | Operator “greater” to compare the port with the specified <i>source-port</i> .                                                                                                                                                                         |
| destination       | <i>IP address</i> | The destination address in the header of IP-packet.                                                                                                                                                                                                    |
| destination-mask  | <i>IP-mask</i>    | Mask to be applied to the destination address in the header of IP-packet before comparison with <i>destination</i> .                                                                                                                                   |

| Argument             | Value          | Description                                                                                                                                            |
|----------------------|----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|
|                      |                | There are two ways to enter the mask: in the canonical form (for example, 255.255.255.0) and in the form of prefix with bit length (for example, /24). |
| destination-port     | <i>Integer</i> | Destination port in the <i>TCP</i> or <i>UDP</i> header.                                                                                               |
| destination-end-port | <i>Integer</i> | The end of the destination range of ports.                                                                                                             |
| dst-port-operator    | lt             | Operator “less” to compare the port with the specified <i>destination-port</i> .                                                                       |
|                      | eq             | Operator “equal” to compare the port with the specified <i>destination-port</i> .                                                                      |
|                      | gt             | Operator “greater” to compare the port with the specified <i>destination-port</i> .                                                                    |

**Example**

```
(config-acl)> deny tcp 0.0.0.0/24 port eq 80 0.0.0.0/24 port ►
range 18 88
Network::Acl: Rule accepted.
```

```
(config-acl)> deny icmp 192.168.0.0 255.255.255.0 192.168.1.1 ►
255.255.255.0
Network::Acl: Rule accepted.
```

```
(config-acl)> no deny tcp 0.0.0.0/24 port eq 80 0.0.0.0/24 port ►
range 18 88
Network::Acl: Rule deleted.
```

```
(config-acl)> no deny icmp 192.168.0.0 255.255.255.0 192.168.1.1 ►
255.255.255.0
Network::Acl: Rule deleted.
```

**History**

| Version    | Description                                              |
|------------|----------------------------------------------------------|
| 2.00       | The <b>access-list deny</b> command has been introduced. |
| 2.06       | New value ip was added to the protocol argument.         |
| 2.08       | New protocols esp, gre and ipip were added.              |
| 2.09.A.2.1 | Port ranges were added.                                  |

## 3.2.3 access-list permit

**Description**

Add a packet filtering permit rule into a specified *ACL*.

Command with **no** prefix removes the rule.

**Prefix no**

Yes

**Change settings** Yes

**Multiple input** Yes

### Synopsis

```
(config-acl)> permit (tcp | udp) <source> <source-mask>
[ port( ( <src-port-operator> <source-port> ) |
( range <source-port> <source-end-port> ) )]
<destination> <destination-mask>
[ port( ( <dst-port-operator> <destination-port> ) |
( range <destination-port> <destination-end-port> ) )]]

(config-acl)> permit(icmp | esp | gre | ipip | ip)<source> <source-mask>
<destination> <destination-mask>

(config-acl)> no permit (tcp | udp) <source> <source-mask>
[ port( ( <src-port-operator> <source-port> ) |
( range <source-port> <source-end-port> ) )]
<destination> <destination-mask>
[ port( ( <dst-port-operator> <destination-port> ) |
( range <destination-port> <destination-end-port> ) )]]

(config-acl)> no permit(icmp | esp | gre | ipip | ip)<source> <source-mask>
<destination> <destination-mask>
```

### Arguments

| Argument          | Value      | Description                                                                                                                                                                                                                                            |
|-------------------|------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| tcp               | Keyword    | <a href="#">TCP</a> protocol.                                                                                                                                                                                                                          |
| udp               | Keyword    | <a href="#">UDP</a> protocol.                                                                                                                                                                                                                          |
| icmp              | Keyword    | <a href="#">ICMP</a> protocol.                                                                                                                                                                                                                         |
| esp               | Keyword    | <a href="#">ESP</a> protocol.                                                                                                                                                                                                                          |
| gre               | Keyword    | <a href="#">GRE</a> protocol.                                                                                                                                                                                                                          |
| ipip              | Keyword    | <a href="#">IP in IP</a> protocol.                                                                                                                                                                                                                     |
| ip                | Keyword    | <a href="#">IP</a> protocol (include <a href="#">TCP</a> , <a href="#">UDP</a> , <a href="#">ICMP</a> and other).                                                                                                                                      |
| source            | IP address | The source address in the header of IP-packet.                                                                                                                                                                                                         |
| source-mask       | IP-mask    | Mask to be applied to the source address in the header of IP-packet before comparison with <i>source</i> . There are two ways to enter the mask: the canonical form (for example, 255.255.255.0) and the form of prefix bit length (for example, /24). |
| source-port       | Integer    | Source port in the <a href="#">TCP</a> or <a href="#">UDP</a> header.                                                                                                                                                                                  |
| source-end-port   | Integer    | The end of the source range of ports.                                                                                                                                                                                                                  |
| src-port-operator | lt         | Operator "less" to compare the port with the specified <i>source-port</i> .                                                                                                                                                                            |

| Argument             | Value             | Description                                                                                                                                                                                                                                                                 |
|----------------------|-------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                      | eq                | Operator “equal” to compare the port with the specified <i>source-port</i> .                                                                                                                                                                                                |
|                      | gt                | Operator “greater” to compare the port with the specified <i>source-port</i> .                                                                                                                                                                                              |
| destination          | <i>IP address</i> | The destination address in the header of IP-packet.                                                                                                                                                                                                                         |
| destination-mask     | <i>IP-mask</i>    | Mask to be applied to the destination address in the header of IP-packet before comparison with <i>destination</i> . There are two ways to enter the mask: in the canonical form (for example, 255.255.255.0) and in the form of prefix with bit length (for example, /24). |
| destination-port     | <i>Integer</i>    | Destination port in the <i>TCP</i> or <i>UDP</i> header.                                                                                                                                                                                                                    |
| destination-end-port | <i>Integer</i>    | The end of the destination range of ports.                                                                                                                                                                                                                                  |
| dst-port-operator    | lt                | Operator “less” to compare the port with the specified <i>destination-port</i> .                                                                                                                                                                                            |
|                      | eq                | Operator “equal” to compare the port with the specified <i>destination-port</i> .                                                                                                                                                                                           |
|                      | gt                | Operator “greater” to compare the port with the specified <i>destination-port</i> .                                                                                                                                                                                         |

**Example**

```
(config-acl)> permit icmp 192.168.0.0 255.255.255.0 192.168.1.1 ►
255.255.255.0
Network::Acl: Rule accepted.
```

```
(config-acl)> permit tcp 0192.168.1.0/24 port eq 443 0.0.0.0/24 ►
port range 8080 9090
Network::Acl: Rule accepted.
```

```
(config-acl)> no permit icmp 192.168.0.0 255.255.255.0 ►
192.168.1.1 255.255.255.0
Network::Acl: Rule deleted.
```

```
(config-acl)> no permit tcp 0192.168.1.0/24 port eq 443 ►
0.0.0.0/24 port range 8080 9090
Network::Acl: Rule deleted.
```

**History**

| Version    | Description                                                |
|------------|------------------------------------------------------------|
| 2.00       | The <b>access-list permit</b> command has been introduced. |
| 2.06       | New value ip was added to the protocol argument.           |
| 2.08       | New protocols esp, gre and ipip were added.                |
| 2.09.A.2.1 | Port ranges were added.                                    |

## 3.2.4 access-list rule

**Description** Disable, set operation time by schedule, change the order or set description for the [ACL](#) rule.

Command with **no** prefix enables the rule, removes schedule and description for [ACL](#) rule.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** Yes

**Synopsis**

```
(config-acl)> rule <index> (disable | schedule <schedule> | order
<new-index> | description <description>)

(config-acl)> no rule <index> (disable | schedule | description)
```

**Arguments**

| Argument    | Value           | Description                                                                                |
|-------------|-----------------|--------------------------------------------------------------------------------------------|
| index       | <i>Integer</i>  | The ACL rule number.                                                                       |
| disable     | <i>Keyword</i>  | Disable the ACL rule.                                                                      |
| schedule    | <i>Schedule</i> | The name of the schedule that was created with <a href="#">schedule</a> group of commands. |
| order       | <i>Integer</i>  | New position of the ACL rule in the list.                                                  |
| description | <i>String</i>   | The ACL rule description.                                                                  |

**Example**

```
(config-acl)> rule 0 disable
Network::Acl: Rule disabled.
```

```
(config-acl)> rule 0 schedule acl_schedule
Network::Acl: Rule schedule set to "acl_schedule".
```

```
(config-acl)> rule 0 description myacl
Network::Acl: Rule description set to "myacl".
```

```
(config-acl)> rule 0 order 1
Network::Acl: Rule 0 moved to position 1.
```

```
(config-acl)> no rule 0 disable
Network::Acl: Rule enabled.
```

```
(config-acl)> no rule 0 schedule
Network::Acl: Rule schedule removed.
```

```
(config-acl)> no rule 0 description
Network::Acl: Rule description removed.
```

**History**

| Version | Description                                              |
|---------|----------------------------------------------------------|
| 2.08    | The <b>access-list rule</b> command has been introduced. |

## 3.3 cloud control2 security-level

**Description** Set Cloud Control2 service security level for Keenetic mobile application. By default, public value is set.

**Prefix no** No

**Change settings** Yes

**Multiple input** No

**Synopsis** `(config)> cloud control2 security-level (public | private)`

**Arguments**

| Argument | Value          | Description                                                                           |
|----------|----------------|---------------------------------------------------------------------------------------|
| public   | <i>Keyword</i> | Access to the Cloud Control2 is allowed for public, private and protected interfaces. |
| private  | <i>Keyword</i> | Access to the Cloud Control2 is allowed for private interfaces only.                  |

**Example**

```
(config)> cloud control2 security-level public
CloudControl2::Agent: Security level changed to public.
```

```
(config)> cloud control2 security-level private
CloudControl2::Agent: Security level changed to private.
```

**History**

| Version | Description                                                           |
|---------|-----------------------------------------------------------------------|
| 3.05    | The <b>cloud control2 security-level</b> command has been introduced. |

## 3.4 components

**Description** Access to a group of commands to manage firmware components.

**Prefix no** No

**Change settings** No

**Multiple input** No

**Group entry** `(config-comp)`

**Synopsis** `(config)> components`



| History | Version | Description                                        |
|---------|---------|----------------------------------------------------|
|         | 2.00    | The <b>components</b> command has been introduced. |

### 3.4.1 components auto-update channel

**Description** Set source of components for auto-update feature. By default, value `stable` is used.

Command with **no** prefix resets setting to default.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Synopsis**

```
(config-comp)> auto-update channel <channel>
(config-comp)> no auto-update channel
```

| Arguments | Argument | Value   | Description                                                                                                                                       |
|-----------|----------|---------|---------------------------------------------------------------------------------------------------------------------------------------------------|
|           | channel  | stable  | Components have been fully tested and recommended for installation. The web interface specifies this channel as Main.                             |
|           |          | preview | Components contain the latest features and enhancements, but have not been fully tested yet. The web interface specifies this channel as Preview. |
|           |          | draft   | The components contain the latest features and are used for testing. The web interface specifies this channel as Dev.                             |

**Example**

```
(config-comp)> auto-update channel preview
Components::Manager: Auto-update channel is "preview".
```

```
(config-comp)> no auto-update channel
Components::Manager: Reset an auto-update channel to default.
```

| History | Version | Description                                                            |
|---------|---------|------------------------------------------------------------------------|
|         | 3.01    | The <b>components auto-update channel</b> command has been introduced. |

### 3.4.2 components auto-update disable

**Description** Components auto-update function. By default, automatic update is enabled.

Command with **no** prefix enables auto-update.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** Yes

**Synopsis**

```
(config-comp)> auto-update disable
(config-comp)> no auto-update disable
```

**Example**

```
(config-comp)> auto-update disable
Components::Manager: Components auto-update disabled.

(config-comp)> no auto-update disable
Components::Manager: Components auto-update enabled.
```

**History**

| Version | Description                                                            |
|---------|------------------------------------------------------------------------|
| 2.09    | The <b>components auto-update disable</b> command has been introduced. |

### 3.4.3 components auto-update schedule

**Description** Assign a schedule for the auto-update operation. Schedule must be created and customized with **schedule action** command before execution.

Command with **no** prefix unbinds the schedule.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Synopsis**

```
(config-comp)> auto-update schedule <schedule>
(config-comp)> no auto-update schedule
```

**Arguments**

| Argument | Value           | Description                                                                       |
|----------|-----------------|-----------------------------------------------------------------------------------|
| schedule | <i>Schedule</i> | The name of the schedule that was created with <b>schedule</b> group of commands. |

**Example**

```
(config-comp)> auto-update schedule Update
Components::Manager: Set auto-update schedule "Update".

(config-comp)> no auto-update schedule
Components::Manager: Schedule disabled.
```

**History**

| Version | Description                                                             |
|---------|-------------------------------------------------------------------------|
| 3.03    | The <b>components auto-update schedule</b> command has been introduced. |

## 3.4.4 components check-update

**Description** Check the firmware updates for the candidate or member of Modular Wi-Fi System.

**Prefix no** No

**Change settings** No

**Multiple input** No

**Synopsis** `(config-comp)> check-update [ force ]`

**Arguments**

| Argument | Value          | Description                   |
|----------|----------------|-------------------------------|
| force    | <i>Keyword</i> | Check for updates constantly. |

**Example**

```
(config-comp)> check-update

release: 2.15.A.3.0-2
  sandbox: draft
  timestamp: Dec 17 18:58:55
  valid: no
```

```
(config-comp)> check-update force

release: 2.15.A.3.0-2
  sandbox: draft
  timestamp: Dec 17 18:58:55
  valid: no
```

**History**

| Version | Description                                                     |
|---------|-----------------------------------------------------------------|
| 2.14    | The <b>components check-update</b> command has been introduced. |

## 3.4.5 components commit

**Description** Apply the changes made by **components install** and **components remove** commands.

**Prefix no** No

**Change settings** Yes

**Multiple input**

No

**Synopsis**`(config-comp)> commit`**History**

| Version | Description                                               |
|---------|-----------------------------------------------------------|
| 2.00    | The <b>components commit</b> command has been introduced. |

## 3.4.6 components install

**Description**

Mark component to install. Final installation carried out with **components commit** command.

**Prefix no**

No

**Change settings**

Yes

**Multiple input**

Yes

**Synopsis**`(config-comp)> install <component>`**Arguments**

| Argument  | Value         | Description                                                                                                             |
|-----------|---------------|-------------------------------------------------------------------------------------------------------------------------|
| component | <i>String</i> | Component name. List of available components for installation can be displayed with the <b>components list</b> command. |

**Example**

```
(config-comp)> install ntfs
Components::Manager: Component "ntfs" is queued for installation.
```

**History**

| Version | Description                                                |
|---------|------------------------------------------------------------|
| 2.00    | The <b>components install</b> command has been introduced. |

## 3.4.7 components list

**Description**

Switch to the selected sandbox and mark for installation all the components that require changes to match the version in the sandbox. If you use no argument, the entire list of all components for current sandbox (installed and available) will be displayed. If there is no Internet connection, only the list of installed components will be displayed.

**Prefix no**

No

**Change settings**

No

**Multiple input**

No

**Synopsis**

```
(config-comp)> list [ sandbox ]
```

**Arguments**

| Argument | Value         | Description                             |
|----------|---------------|-----------------------------------------|
| sandbox  | <i>String</i> | Remote sandbox, such as stable or beta. |

**Example**

```
(config-comp)> list

    firmware:
        version: 2.13.C.0.0-1

    sandbox: stable

    local:
        sandbox: beta

    component:
        name: base

        priority: optional
        size: 35233
        version: 2.13.C.0.0-1
        hash: f65428af2a6fd636db779370deb58f40
        installed: 2.13.B.1.0-1

        preset: minimal
        preset: recommended
        queued: yes

    ...
```

**History**

| Version  | Description                                                                                                                               |
|----------|-------------------------------------------------------------------------------------------------------------------------------------------|
| 2.00     | The <b>components list</b> command has been introduced.                                                                                   |
| 2.06.A.6 | The <i>sandbox</i> parameter has been introduced. The command <b>components list</b> should be used in favour of <b>components sync</b> . |

## 3.4.8 components preset

**Description**

Select a predefined set of components. Installation of preset is carried out with **components commit** command.

Before preset installation check the latest versions of components on the update server with **components list** command. Internet connection is required.

**Prefix no**

No

**Change settings**

Yes

**Multiple input** No

**Synopsis** `(config-comp)> preset <preset>`

**Arguments** Number and names of presets can be changed, so check the list of available presets with help of **preset** [Tab] command.

| Argument | Value       | Description                                                    |
|----------|-------------|----------------------------------------------------------------|
| preset   | minimal     | Minimal set of components will be marked.                      |
|          | recommended | Recommended set of components will be marked for installation. |

**Example** `(config-comp)> preset [Tab]`

```
Usage template:
    preset {preset}
```

```
Choose:
    minimal
    recommended
```

```
(config-comp)> preset recommended
lib::libndmComponents error[268369922]: updates are available ►
for this system.
(config-comp)> commit
Components::Manager: Update task started.
```

**History**

| Version | Description                                               |
|---------|-----------------------------------------------------------|
| 2.00    | The <b>components preset</b> command has been introduced. |

### 3.4.9 components preview

**Description** Show size of firmware as current set of components selected with **components install** command.

**Prefix no** No

**Change settings** Yes

**Multiple input** No

**Synopsis** `(config-comp)> preview`

**Example** `(config-comp)> preview`

```
preview:
    size: 7733308
```

**History**

| Version | Description                                                |
|---------|------------------------------------------------------------|
| 2.06    | The <b>components preview</b> command has been introduced. |

## 3.4.10 components remove

**Description** Mark component to remove. Final removal carried out with **components commit** command.

**Prefix no** No

**Change settings** Yes

**Multiple input** Yes

**Synopsis** `(config-comp)> remove <component>`

**Arguments**

| Argument  | Value         | Description                                                                                                        |
|-----------|---------------|--------------------------------------------------------------------------------------------------------------------|
| component | <i>String</i> | Component name. List of available components for removal can be displayed with the <b>components list</b> command. |

**Example**

```
(config-comp)> remove ntfs
Components::Manager: Component "ntfs" is queued for removal.
```

**History**

| Version | Description                                               |
|---------|-----------------------------------------------------------|
| 2.00    | The <b>components remove</b> command has been introduced. |

## 3.4.11 components validity-period

**Description** Set a validity period of a local component list. After this time the command **components list** will be automatically executed to get actual list of components from update server. By default, value 1800 is used.

Command with **no** prefix resets period to default.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Synopsis** `(config-comp)> validity-period <seconds>`

`(config-comp)> no validity-period`

**Arguments**

| Argument | Value          | Description                                                                                                      |
|----------|----------------|------------------------------------------------------------------------------------------------------------------|
| seconds  | <i>Integer</i> | Validity period of a local component list in seconds. Can take values in the range from 0 to 604800 inclusively. |

**Example**

```
(config-comp)> validity-period 500
Components::Manager: Validity period set to 500 seconds.
```

```
(config-comp)> no validity-period
Components::Manager: Validity period reset to 1800 seconds.
```

**History**

| Version | Description                                                        |
|---------|--------------------------------------------------------------------|
| 2.03    | The <b>components validity-period</b> command has been introduced. |

## 3.5 crypto engine

**Description**

Select the type of *ESP* packets processing with *IPsec*. By default, the hardware mode is used.

Command with **no** prefix disables the feature.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

No

**Synopsis**

```
(config)> crypto engine <type>
```

```
(config)> no crypto engine
```

**Arguments**

| Argument | Value    | Description    |
|----------|----------|----------------|
| type     | software | Software mode. |
|          | hardware | Hardware mode. |

**Example**

```
(config)> crypto engine software
IpSec::CryptoEngineManager: IPsec crypto engine set to "software".
```

```
(config)> no crypto engine
IpSec::CryptoEngineManager: IPsec crypto engine was disabled.
```

**History**

| Version | Description                                           |
|---------|-------------------------------------------------------|
| 2.06    | The <b>crypto engine</b> command has been introduced. |



## 3.6 crypto ike key

**Description** Add *IKE* key with remote side ID.

Command with **no** prefix removes specified key.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** Yes

**Synopsis**

```
(config)> crypto ike key <name> <psk> ( <type> <id> | any)
```

```
(config)> no crypto ike key <name>
```

**Arguments**

| Argument | Value          | Description                                                                            |
|----------|----------------|----------------------------------------------------------------------------------------|
| name     | <i>String</i>  | Name of the key. Latin letters, numbers, dots, hyphens and underscores are acceptable. |
| psk      | <i>String</i>  | Password for authentication. Password length can be from 6 to 96 characters.           |
| type     | address        | ID type is IP address.                                                                 |
|          | fqdn           | ID type is full domain name.                                                           |
|          | dn             | ID type is domain name.                                                                |
|          | email          | ID type is e-mail address.                                                             |
| id       | <i>String</i>  | Value of the remote side ID.                                                           |
| any      | <i>Keyword</i> | Allow the key usage for any remote side.                                               |

**Example**

```
(config)> crypto ike key VirtualIPServer ▶  
aDjs0C1gvWCs0iE4Ijhs+HRnNPiheGA478 any  
IpSec::Manager: "VirtualIPServer": crypto ike key successfully ▶  
added.
```

```
(config)> crypto ike key VirtualIPServer ▶  
aDjs0C1gvWCs0iE4Ijhs+HRnNPiheGA478R4M6d4+054LLihe any  
IpSec::Manager: "VirtualIPServer": crypto ike key successfully ▶  
updated.
```

```
(config)> no crypto ike key VirtualIPServer  
IpSec::Manager: "VirtualIPServer": crypto ike key successfully ▶  
removed.
```

**History**

| Version | Description                                            |
|---------|--------------------------------------------------------|
| 2.06    | The <b>crypto ike key</b> command has been introduced. |

## 3.7 crypto ike mtu

**Description** Set the *MTU* value to be transmitted to *IKE*. By default, the *MTU* value is inherited from the interface through which the Internet is accessed.

Command with **no** prefix resets the *MTU* value to default.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Synopsis**

```
(config)> crypto ike mtu (value)
(config)> no crypto ike mtu
```

**Arguments**

| Argument | Value          | Description                                                                  |
|----------|----------------|------------------------------------------------------------------------------|
| value    | <i>Integer</i> | <i>MTU</i> value. Can take values in the range from 576 to 1500 inclusively. |

**Example**

```
(config)> crypto ike mtu 1400
IpSec::Manager: IKE MTU value is set to 1400.
```

```
(config)> no crypto ipsec mtu
IpSec::Manager: Reset IKE MTU value.
```

**History**

| Version | Description                                            |
|---------|--------------------------------------------------------|
| 3.08    | The <b>crypto ike mtu</b> command has been introduced. |

## 3.8 crypto ike nat-keepalive

**Description** Set the timeout between keepalive packets in case of NAT between the client and server *IPsec*. By default, 20 value is set.

Command with **no** prefix resets setting to default.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Synopsis**

```
(config)> crypto ike nat-keepalive <nat-keepalive>
(config)> no crypto ike nat-keepalive
```

**Arguments**

| Argument      | Value          | Description                                                                                            |
|---------------|----------------|--------------------------------------------------------------------------------------------------------|
| nat-keepalive | <i>Integer</i> | Timeout between keepalive packets in seconds. Can take values in the range from 5 to 3600 inclusively. |

**Example**

```
(config)> crypto ike nat-keepalive 90
IpSec::Manager: Set crypto ike nat-keepalive timeout to 90 s.
```

```
(config)> no crypto ike nat-keepalive
IpSec::Manager: Reset crypto ike nat-keepalive timeout to 20 s.
```

**History**

| Version | Description                                                      |
|---------|------------------------------------------------------------------|
| 2.06    | The <b>crypto ike nat-keepalive</b> command has been introduced. |

## 3.9 crypto ike policy

**Description**

Access to a group of commands to configure selected *IKE* policy. If *IKE* policy is not found, the command tries to create it.

Command with **no** prefix removes *IKE* policy. At the same time references to this *IKE* policy are automatically deleted from all *IPsec* profiles.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

Yes

**Group entry**

(config-ike-policy)

**Synopsis**

```
(config)> crypto ike policy <name>
```

```
(config)> no crypto ike policy <name>
```

**Arguments**

| Argument | Value         | Description                                                                                   |
|----------|---------------|-----------------------------------------------------------------------------------------------|
| name     | <i>String</i> | <i>IKE</i> policy name. Latin letters, numbers, dots, hyphens and underscores are acceptable. |

**Example**

```
(config)> crypto ike policy test
IpSec::Manager: "test": crypto ike policy successfully created.
```

```
(config)> no crypto ike policy test
IpSec::Manager: Crypto ike policy "test" removed.
```

**History**

| Version | Description                                               |
|---------|-----------------------------------------------------------|
| 2.06    | The <b>crypto ike policy</b> command has been introduced. |

## 3.9.1 crypto ike policy lifetime

**Description**

Set lifetime of *IPsec IKE* association. By default, the value 86400 is used.

Command with **no** prefix resets setting to default.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

No

**Synopsis**

```
(config-ike-policy)> lifetime <lifetime>
```

```
(config-ike-policy)> no lifetime
```

**Arguments**

| Argument | Value          | Description                                                                                              |
|----------|----------------|----------------------------------------------------------------------------------------------------------|
| lifetime | <i>Integer</i> | Lifetime of <i>IPsec IKE</i> association in seconds. Can take values in the range from 60 to 2147483647. |

**Example**

```
(config-ike-policy)> lifetime 3600  
IpSec::Manager: "test": crypto ike policy lifetime set to 3600 s.
```

```
(config-ike-policy)> no lifetime  
IpSec::Manager: "test": crypto ike policy lifetime reset.
```

**History**

| Version | Description                                                        |
|---------|--------------------------------------------------------------------|
| 2.06    | The <b>crypto ike policy lifetime</b> command has been introduced. |

## 3.9.2 crypto ike policy mode

**Description**

Set *IKE* protocol version. By default, the value ikev1 is used.

Command with **no** prefix resets setting to default.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

No

**Synopsis**

```
(config-ike-policy)> mode <mode>
```

```
(config-ike-policy)> no mode
```

**Arguments**

| Argument | Value | Description             |
|----------|-------|-------------------------|
| mode     | ikev1 | Protocol version IKEv1. |
|          | ikev2 | Protocol version IKEv2. |

**Example**

```
(config-ike-policy)> mode ikev2
IpSec::Manager: "test": crypto ike policy mode set to "ikev2".
```

```
(config-ike-policy)> no mode
IpSec::Manager: "test": crypto ike policy mode reset.
```

**History**

| Version | Description                                                    |
|---------|----------------------------------------------------------------|
| 2.06    | The <b>crypto ike policy mode</b> command has been introduced. |

## 3.9.3 crypto ike policy negotiation-mode

**Description**

Set exchange mode for IKEv1 (see [crypto ike policy mode](#) command). By default, the value main is used.

Command with **no** prefix resets setting to default.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

No

**Synopsis**

```
(config-ike-policy)> negotiation-mode <negotiation-mode>
```

```
(config-ike-policy)> no negotiation-mode
```

**Arguments**

| Argument         | Value      | Description                                                  |
|------------------|------------|--------------------------------------------------------------|
| negotiation-mode | main       | Main mode, protects the identity of the peers.               |
|                  | aggressive | Aggressive mode, does not protect the identity of the peers. |

**Example**

```
(config-ike-policy)> negotiation-mode aggressive
IpSec::Manager: "test": crypto ike policy negotiation-mode set to "aggressive".
```

```
(config-ike-policy)> no negotiation-mode
IpSec::Manager: "test": crypto ike policy negotiation-mode reset.
```

**History**

| Version | Description                                                                |
|---------|----------------------------------------------------------------------------|
| 2.06    | The <b>crypto ike policy negotiation-mode</b> command has been introduced. |

## 3.9.4 crypto ike policy proposal

**Description**

Add reference on existing *IKE* proposal to *IKE* policy. The order of adding has a value for data exchange on the *IKE* protocol.

Command with **no** prefix removes reference on *IKE* proposal.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

Yes

**Synopsis**

```
(config-ike-policy)> proposal <proposal>
```

```
(config-ike-policy)> no proposal <proposal>
```

**Arguments**

| Argument | Value         | Description                                                                                     |
|----------|---------------|-------------------------------------------------------------------------------------------------|
| proposal | <i>String</i> | <i>IKE</i> proposal name. Latin letters, numbers, dots, hyphens and underscores are acceptable. |

**Example**

```
(config-ike-policy)> proposal test
IpSec::Manager: "test": crypto ike proposal "test" successfully ►
added.
```

```
(config-ike-policy)> no proposal
IpSec::Manager: "test": crypto ike policy proposal "test" ►
successfully removed.
```

**History**

| Version | Description                                                        |
|---------|--------------------------------------------------------------------|
| 2.06    | The <b>crypto ike policy proposal</b> command has been introduced. |

## 3.10 crypto ike proposal

**Description**

Access to a group of commands to configure selected *IKE* proposal. If *IKE* proposal is not found, the command tries to create it.

A full list of encryption algorithms implemented in the system is provided in the [Appendix](#).

Command with **no** prefix removes *IKE* proposal. At the same time references to this *IKE* proposal are automatically deleted from all *IKE* policy.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** Yes

**Group entry** (config-ike-proposal)

**Synopsis**

```
(config)> crypto ike proposal <name>
(config)> no crypto ike proposal <name>
```

**Arguments**

| Argument | Value         | Description                                                                                     |
|----------|---------------|-------------------------------------------------------------------------------------------------|
| name     | <i>String</i> | <i>IKE</i> proposal name. Latin letters, numbers, dots, hyphens and underscores are acceptable. |

**Example**

```
(config)> crypto ike proposal test
IpSec::Manager: "test": crypto ike proposal successfully created.
```

```
(config)> no crypto ike proposal test
IpSec::Manager: Crypto ike proposal "test" removed.
```

**History**

| Version | Description                                                 |
|---------|-------------------------------------------------------------|
| 2.06    | The <b>crypto ike proposal</b> command has been introduced. |

### 3.10.1 crypto ike proposal aead

**Description** Enable *AEAD* cypher mode on *IKE* proposal.

**Prefix no** No

**Change settings** No

**Multiple input** No

**Synopsis**

```
(config-ike-proposal)> aead
```

**Example**

```
(config-ike-proposal)> aead
IpSec::Manager: "TEST": crypto ike proposal "TEST" enabled AEAD ►
mode.
```

**History**

| Version | Description                                                      |
|---------|------------------------------------------------------------------|
| 3.05    | The <b>crypto ike proposal aead</b> command has been introduced. |

## 3.10.2 crypto ike proposal dh-group

**Description**

Add the selected *DH* group to *IKE* proposal to work in the *PFS* mode. The order of adding has a value for data exchange on the *IKE* protocol.

Command with **no** prefix removes the selected group.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

Yes

**Synopsis**

```
(config-ike-proposal)> dh-group <dh-group>
```

```
(config-ike-proposal)> no dh-group <dh-group>
```

**Arguments**

| Argument | Value | Description                                     |
|----------|-------|-------------------------------------------------|
| dh-group | 1     | <i>DH</i> group to work in the <i>PFS</i> mode. |
|          | 2     |                                                 |
|          | 5     |                                                 |
|          | 14    |                                                 |
|          | 15    |                                                 |
|          | 16    |                                                 |
|          | 17    |                                                 |
|          | 18    |                                                 |
|          | 19    |                                                 |
|          | 20    |                                                 |
|          | 21    |                                                 |
|          | 25    |                                                 |
|          | 26    |                                                 |
|          | 31    |                                                 |
|          | 32    |                                                 |

**Example**

```
(config-ike-proposal)> dh-group 14
IpSec::Manager: "test": crypto ike proposal DH group "14" ►
successfully added.
```



```
(config-ike-proposal)> no dh-group 14
IpSec::Manager: "test": crypto ike proposal "test" group type ►
successfully removed.
```

**History**

| Version | Description                                                          |
|---------|----------------------------------------------------------------------|
| 2.06    | The <b>crypto ike proposal dh-group</b> command has been introduced. |

### 3.10.3 crypto ike proposal encryption

**Description**

Add the selected type of encryption to *IKE* proposal. The order of adding has a value for data exchange on the *IKE* protocol.

Command with **no** prefix removes the selected type of encryption.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

Yes

**Synopsis**

```
(config-ike-proposal)> encryption <encryption>
```

```
(config-ike-proposal)> no encryption <encryption>
```

**Arguments**

| Argument   | Value       | Description                    |
|------------|-------------|--------------------------------|
| encryption | des         | Type of <i>IKE</i> encryption. |
|            | 3des        |                                |
|            | aes-cbc-128 |                                |
|            | aes-cbc-192 |                                |
|            | aes-cbc-256 |                                |
|            | aes-ctr-128 |                                |
|            | aes-ctr-192 |                                |
|            | aes-ctr-256 |                                |

**Example**

```
(config-ike-proposal)> encryption des
IpSec::Manager: "test": crypto ike proposal encryption algorithm ►
"des" added.
```

```
(config-ike-proposal)> no encryption des
IpSec::Manager: "test": crypto ike proposal "test" encryption ►
type successfully removed.
```

**History**

| Version | Description                                                            |
|---------|------------------------------------------------------------------------|
| 2.06    | The <b>crypto ike proposal encryption</b> command has been introduced. |

## 3.10.4 crypto ike proposal integrity

**Description**

Add the selected value of *HMAC* signature algorithm to *IKE* proposal. The order of adding has a value for data exchange on the *IKE* protocol.

Command with **no** prefix removes the selected algorithm.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

Yes

**Synopsis**

```
(config-ike-proposal)> integrity <integrity>
```

```
(config-ike-proposal)> no integrity <integrity>
```

**Arguments**

| Argument  | Value  | Description                                             |
|-----------|--------|---------------------------------------------------------|
| integrity | md5    | <i>HMAC</i> signature algorithm of <i>IKE</i> messages. |
|           | sha1   |                                                         |
|           | sha256 |                                                         |
|           | sha384 |                                                         |
|           | sha512 |                                                         |

**Example**

```
(config-ike-proposal)> integrity sha256
IpSec::Manager: "test": crypto ike proposal integrity algorithm ►
"sha256" successfully added.
```

```
(config-ike-proposal)> no integrity sha256
IpSec::Manager: "test": crypto ike proposal "test" integrity ►
type successfully removed.
```

**History**

| Version | Description                                                           |
|---------|-----------------------------------------------------------------------|
| 2.06    | The <b>crypto ike proposal integrity</b> command has been introduced. |

## 3.10.5 crypto ike proposal prf

**Description**

Add the selected *PRF* group to *IKE* proposal.

Command with **no** prefix removes the selected algorithm.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** Yes

**Synopsis**

```
(config-ike-proposal)> prf <prf>
(config-ike-proposal)> no prf <prf>
```

#### Arguments

| Argument | Value    | Description                                                               |
|----------|----------|---------------------------------------------------------------------------|
| prf      | md5      | <a href="#">HMAC</a> signature algorithm of <a href="#">IKE</a> messages. |
|          | sha1     |                                                                           |
|          | aes-xcbc |                                                                           |
|          | sha256   |                                                                           |
|          | sha384   |                                                                           |
|          | sha512   |                                                                           |
|          | aes-cmac |                                                                           |

#### Example

```
(config-ike-proposal)> prf sha256
IpSec::Manager: "TEST": crypto ike proposal prf algorithm ►
"sha256" successfully added.
```

```
(config-ike-proposal)> no prf sha256
IpSec::Manager: "TEST": crypto ike proposal "TEST" prf type ►
successfully removed.
```

#### History

| Version | Description                                                     |
|---------|-----------------------------------------------------------------|
| 3.05    | The <b>crypto ike proposal prf</b> command has been introduced. |

## 3.11 crypto ipsec incompatible

**Description** Disable [IPsec](#) tunnels compatibility checking. By default, the setting is disabled. Command with **no** prefix enables the checking back.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Synopsis**

```
(config)> crypto ipsec incompatible
(config)> no crypto ipsec incompatible
```

**Example**

```
(config)> crypto ipsec incompatible
IpSec::Manager: Compatibility checks is disabled.
```

```
(config)> no crypto ipsec incompatible
IpSec::Manager: Compatibility checks is enabled.
```

**History**

| Version | Description                                                       |
|---------|-------------------------------------------------------------------|
| 2.10    | The <b>crypto ipsec incompatible</b> command has been introduced. |

## 3.12 crypto ipsec profile

**Description**

Access to a group of commands to configure selected *IPsec* profile. If profile is not found, the command tries to create it.

Command with **no** prefix removes profile. At the same time references to this profile are automatically deleted from all *IPsec* crypto maps.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

Yes

**Group entry**

(config-ipsec-profile)

**Synopsis**

```
(config)> crypto ipsec profile <name>
```

```
(config)> no crypto ipsec profile <name>
```

**Arguments**

| Argument | Value         | Description                                                                                      |
|----------|---------------|--------------------------------------------------------------------------------------------------|
| name     | <i>String</i> | <i>IPsec</i> profile name. Latin letters, numbers, dots, hyphens and underscores are acceptable. |

**Example**

```
(config)> crypto ipsec profile test
IpSec::Manager: "test": crypto ipsec profile successfully created.
```

```
(config)> no crypto ipsec profile test
IpSec::Manager: Crypto ipsec profile "test" removed.
```

**History**

| Version | Description                                                  |
|---------|--------------------------------------------------------------|
| 2.06    | The <b>crypto ipsec profile</b> command has been introduced. |

### 3.12.1 crypto ipsec profile authentication-local

**Description** Set authentication type for local host. By default, value pre-share is used.

Command with **no** prefix resets setting to default.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Synopsis**

```
(config-ipsec-profile)> authentication-local <auth>
(config-ipsec-profile)> no authentication-local
```

**Arguments**

| Argument | Value     | Description                                       |
|----------|-----------|---------------------------------------------------|
| auth     | pre-share | A single available type of authorization for now. |

**Example**

```
(config-ipsec-profile)> authentication-local pre-share
IpSec::Manager: "test": crypto ipsec profile authentication-local ►
type "pre-share" is set.
```

```
(config-ipsec-profile)> no authentication-local
IpSec::Manager: "test": crypto ipsec profile authentication-local ►
reset.
```

**History**

| Version | Description                                                                       |
|---------|-----------------------------------------------------------------------------------|
| 2.06    | The <b>crypto ipsec profile authentication-local</b> command has been introduced. |

### 3.12.2 crypto ipsec profile authentication-remote

**Description** Set authentication type for remote host. By default, value pre-share is used.

Command with **no** prefix resets setting to default.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Synopsis**

```
(config-ipsec-profile)> authentication-remote <auth>
(config-ipsec-profile)> no authentication-remote
```

**Arguments**

| Argument | Value     | Description                                       |
|----------|-----------|---------------------------------------------------|
| auth     | pre-share | A single available type of authorization for now. |

**Example**

```
(config-ipsec-profile)> authentication-remote pre-share
IpSec::Manager: "test": crypto ipsec profile ►
authentication-remote type "pre-share" is set.
```

```
(config-ipsec-profile)> no authentication-remote
IpSec::Manager: "test": crypto ipsec profile ►
authentication-remote reset.
```

**History**

| Version | Description                                                                        |
|---------|------------------------------------------------------------------------------------|
| 2.06    | The <b>crypto ipsec profile authentication-remote</b> command has been introduced. |

### 3.12.3 crypto ipsec profile dpd-clear

**Description**

Set method of action when detecting a dead [IKE](#) peer. By default, the setting is enabled, which means deleting peer information.

Command with **no** prefix set action to restart.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

No

**Synopsis**

```
(config-ipsec-profile)> dpd-clear
```

```
(config-ipsec-profile)> no dpd-clear
```

**Example**

```
(config-ipsec-profile)> dpd-clear
IpSec::Manager: "VPLN2TPServer": crypto ipsec profile DPD action ►
set to "clear".
```

```
(config-ipsec-profile)> no dpd-clear
IpSec::Manager: "VPLN2TPServer": crypto ipsec profile DPD action ►
set to "restart".
```

**History**

| Version | Description                                                            |
|---------|------------------------------------------------------------------------|
| 2.11    | The <b>crypto ipsec profile dpd-clear</b> command has been introduced. |

### 3.12.4 crypto ipsec profile dpd-interval

**Description** Set parameters of method to detect a dead *IKE* peer. By default, interval is set to 30, retry-count is set to 3.

Command with **no** prefix resets settings to default.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Synopsis**

```
(config-ipsec-profile)> dpd-interval <interval> [retry-count]
```

```
(config-ipsec-profile)> no dpd-interval
```

#### Arguments

| Argument    | Value          | Description                                                                                         |
|-------------|----------------|-----------------------------------------------------------------------------------------------------|
| interval    | <i>Integer</i> | The interval of sending <i>DPD</i> packets in seconds. Can take values in the range from 2 to 3600. |
| retry-count | <i>Integer</i> | Number of attempts to send <i>DPD</i> packets. Can take values in the range from 3 to 60.           |

#### Example

```
(config-ipsec-profile)> dpd-interval 5 30
IpSec::Manager: "test": crypto ipsec profile dpd retry count is ►
set to 30.
```

```
(config-ipsec-profile)> no dpd-interval
IpSec::Manager: "test": crypto ipsec profile dpd retry count ►
reset.
```

#### History

| Version | Description                                                               |
|---------|---------------------------------------------------------------------------|
| 2.06    | The <b>crypto ipsec profile dpd-interval</b> command has been introduced. |

### 3.12.5 crypto ipsec profile identity-local

**Description** Set a local identifier of *IPsec* profile.

Command with **no** prefix removes the local identifier.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Synopsis**

```
(config-ipsec-profile)> identity-local <type> <id>
```

```
(config-ipsec-profile)> no identity-local
```

**Arguments**

| Argument | Value         | Description                  |
|----------|---------------|------------------------------|
| type     | address       | ID type is IP address.       |
|          | fqdn          | ID type is full domain name. |
|          | dn            | ID type is domain name.      |
|          | email         | ID type is e-mail address.   |
| id       | <i>String</i> | Local ID value.              |

**Example**

```
(config-ipsec-profile)> identity-local address 10.10.10.5  
IpSec::Manager: "test": crypto ipsec profile identity-local is ►  
set to "10.10.10.5" with type "address".
```

```
(config-ipsec-profile)> no identity-local  
IpSec::Manager: "test": crypto ipsec profile identity-local reset.
```

**History**

| Version | Description                                                                 |
|---------|-----------------------------------------------------------------------------|
| 2.06    | The <b>crypto ipsec profile identity-local</b> command has been introduced. |

## 3.12.6 crypto ipsec profile match-identity-remote

**Description**

Set remote host identifier for *IPsec* profile.

Command with **no** prefix removes remote host ID.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

No

**Synopsis**

```
(config-ipsec-profile)> match-identity-remote (<type> <id> | any)
```

```
(config-ipsec-profile)> no match-identity-remote
```

**Arguments**

| Argument | Value         | Description                  |
|----------|---------------|------------------------------|
| type     | address       | ID type is IP address.       |
|          | fqdn          | ID type is full domain name. |
|          | dn            | ID type is domain name.      |
|          | email         | ID type is e-mail address.   |
| id       | <i>String</i> | Remote host ID value.        |



| Argument | Value          | Description                     |
|----------|----------------|---------------------------------|
| any      | <i>Keyword</i> | Allow usage of any remote host. |

**Example**

```
(config-ipsec-profile)> match-identity-remote any
IpSec::Manager: "test": crypto ipsec profile ►
match-identity-remote is set to any.
```

```
(config-ipsec-profile)> no match-identity-remote
IpSec::Manager: "test": crypto ipsec profile ►
match-identity-remote reset.
```

**History**

| Version | Description                                                                        |
|---------|------------------------------------------------------------------------------------|
| 2.06    | The <b>crypto ipsec profile match-identity-remote</b> command has been introduced. |

## 3.12.7 crypto ipsec profile mode

**Description**

Set the mode of operation *IPsec*. By default, tunnel value is set.

Command with **no** prefix resets setting to default.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

No

**Synopsis**

```
(config-ipsec-profile)> mode mode
```

```
(config-ipsec-profile)> no mode
```

**Arguments**

| Argument | Value     | Description                                                                               |
|----------|-----------|-------------------------------------------------------------------------------------------|
| mode     | tunnel    | Tunnel mode, when the entire IP packet is encrypted and/or authenticated.                 |
|          | transport | Transport mode, when only the payload of the IP packet is encrypted and/or authenticated. |

**Example**

```
(config-ipsec-profile)> mode transport
IpSec::Manager: "test": crypto ipsec profile mode set to ►
"transport".
```

```
(config-ipsec-profile)> no mode
IpSec::Manager: "test": crypto ipsec profile mode reset.
```

**History**

| Version | Description                                                       |
|---------|-------------------------------------------------------------------|
| 2.06    | The <b>crypto ipsec profile mode</b> command has been introduced. |

## 3.12.8 crypto ipsec profile policy

**Description**

Set the reference to existing *IKE* policy (see **crypto ike policy** command).

Command with **no** prefix removes the reference.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

No

**Synopsis**

```
(config-ipsec-profile)> policy <policy>
```

```
(config-ipsec-profile)> no policy
```

**Arguments**

| Argument | Value         | Description                                                                                                  |
|----------|---------------|--------------------------------------------------------------------------------------------------------------|
| policy   | <i>String</i> | <i>IKE</i> policy name. You can see the list of available policies with help of <b>policy</b> [Tab] command. |

**Example**

```
(config-ipsec-profile)> policy [Tab]
Usage template:
    policy {name: {A-Z, a-z, 0-9, ., _, -}}
```

```
Choose:
VirtualIPServer
VPNL2TPServer
```

```
(config-ipsec-profile)> policy VirtualIPServer
IpSec::Manager: "TEST": crypto ipsec profile policy set to ►
"VirtualIPServer".
```

```
(config-ipsec-profile)> no policy
IpSec::Manager: "test": crypto ipsec profile policy reset.
```

**History**

| Version | Description                                                         |
|---------|---------------------------------------------------------------------|
| 2.06    | The <b>crypto ipsec profile policy</b> command has been introduced. |

## 3.12.9 crypto ipsec profile preshared-key

**Description**

Set pre-shared key for *IPsec* profile.

Command with **no** prefix removes pre-shared key.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Synopsis**

```
(config-ipsec-profile)> preshared-key <preshare-key>
(config-ipsec-profile)> no preshared-key
```

**Arguments**

| Argument     | Value         | Description           |
|--------------|---------------|-----------------------|
| preshare-key | <i>String</i> | Pre-shared key value. |

**Example**

```
(config-ipsec-profile)> preshared-key testkey
IpSec::Manager: "test": crypto ipsec profile preshared key was ►
set.
```

```
(config-ipsec-profile)> no preshared-key
IpSec::Manager: "test": crypto ipsec profile preshared key reset.
```

**History**

| Version | Description                                                                |
|---------|----------------------------------------------------------------------------|
| 2.06    | The <b>crypto ipsec profile preshared-key</b> command has been introduced. |

## 3.12.10 crypto ipsec profile xauth

**Description** Enable additional authentication [XAuth](#) for IKEv1 mode. By default, function is disabled.

Command with **no** prefix disables additional authentication.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Synopsis**

```
(config-ipsec-profile)> xauth <type>
(config-ipsec-profile)> no xauth
```

**Arguments**

| Argument | Value  | Description  |
|----------|--------|--------------|
| type     | client | Client mode. |
|          | server | Server mode. |

**Example**

```
(config-ipsec-profile)> xauth client
IpSec::Manager: "test": crypto ipsec profile xauth set to ►
"client".
```

```
(config-ipsec-profile)> no xauth
IpSec::Manager: "test": crypto ipsec profile xauth is disabled.
```

**History**

| Version | Description                                                        |
|---------|--------------------------------------------------------------------|
| 2.06    | The <b>crypto ipsec profile xauth</b> command has been introduced. |

### 3.12.11 crypto ipsec profile xauth-identity

**Description**

Set login for additional authentication [XAuth](#) in client mode.

Command with **no** prefix removes the login.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

No

**Synopsis**

```
(config-ipsec-profile)> xauth-identity <identity>
```

```
(config-ipsec-profile)> no xauth-identity
```

**Arguments**

| Argument | Value         | Description                                  |
|----------|---------------|----------------------------------------------|
| identity | <i>String</i> | Login for <a href="#">XAuth</a> client mode. |

**Example**

```
(config-ipsec-profile)> xauth-identity ident
IpSec::Manager: "test": crypto ipsec profile xauth-identity is ►
set to "ident".
```

```
(config-ipsec-profile)> no xauth-identity
IpSec::Manager: "test": crypto ipsec profile xauth identity is ►
deleted.
```

**History**

| Version | Description                                                                 |
|---------|-----------------------------------------------------------------------------|
| 2.06    | The <b>crypto ipsec profile xauth-identity</b> command has been introduced. |

### 3.12.12 crypto ipsec profile xauth-password

**Description**

Set password for additional authentication [XAuth](#) in client mode.

Command with **no** prefix removes the password.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Synopsis**

```
(config-ipsec-profile)> xauth-password <password>
(config-ipsec-profile)> no xauth-password
```

**Arguments**

| Argument | Value         | Description                            |
|----------|---------------|----------------------------------------|
| password | <i>String</i> | Password for <i>XAuth</i> client mode. |

**Example**

```
(config-ipsec-profile)> xauth-password password
IpSec::Manager: "test": crypto ipsec profile xauth-password is ►
set.
```

```
(config-ipsec-profile)> no xauth-password
IpSec::Manager: "test": crypto ipsec profile xauth password is ►
deleted.
```

**History**

| Version | Description                                                                 |
|---------|-----------------------------------------------------------------------------|
| 2.06    | The <b>crypto ipsec profile xauth-password</b> command has been introduced. |

## 3.13 crypto ipsec rekey delete-delay

**Description** Set interval before removing the IKE SA after receiving the DELETE command from the remote side. By default, the 10 value is used.

Command with **no** prefix resets setting to default.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Synopsis**

```
(config)> crypto ipsec rekey delete-delay <delay>
(config)> no crypto ipsec rekey delete-delay
```

**Arguments**

| Argument | Value          | Description                                                       |
|----------|----------------|-------------------------------------------------------------------|
| delay    | <i>Integer</i> | Delay value in seconds. Can take value in the range from 1 to 60. |

**Example**

```
(config)> crypto ipsec rekey delete-delay 1
IpSec::Manager: Rekey delete-delay value is set to 1.
```

```
(config)> no crypto ipsec rekey delete-delay
IpSec::Manager: Rekey delete-delay value is set to 10.
```

**History**

| Version | Description                                                             |
|---------|-------------------------------------------------------------------------|
| 2.11    | The <b>crypto ipsec rekey delete-delay</b> command has been introduced. |

## 3.14 crypto ipsec rekey make-before

**Description**

Set the mode when new IKE SA creates before the breaking the old one. By default, the feature is disabled.

Command with **no** prefix disables the mode.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

No

**Synopsis**

```
(config)> crypto ipsec rekey make-before
```

```
(config)> no crypto ipsec rekey make-before
```

**Example**

```
(config)> crypto ipsec rekey make-before
IpSec::Manager: Enable make-before-brake scheme for IKEv2 rekey.
```

```
(config)> no crypto ipsec rekey make-before
IpSec::Manager: Disable make-before-brake scheme for IKEv2 rekey.
```

**History**

| Version | Description                                                            |
|---------|------------------------------------------------------------------------|
| 2.11    | The <b>crypto ipsec rekey make-before</b> command has been introduced. |

## 3.15 crypto ipsec transform-set

**Description**

Access to a group of commands to configure selected *IPsec ESP* transformation during Phase 2. If transformation is not found, the command tries to create it.

Command with **no** prefix removes transformation. At the same time references to this transformation are automatically deleted from all *IPsec* crypto maps.

**Prefix no**

Yes

| Change settings | Yes                                                                                                                                                                                                                                                                            |                                                                                                  |             |             |                                                                    |        |                                                                                                  |
|-----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|-------------|-------------|--------------------------------------------------------------------|--------|--------------------------------------------------------------------------------------------------|
| Multiple input  | Yes                                                                                                                                                                                                                                                                            |                                                                                                  |             |             |                                                                    |        |                                                                                                  |
| Group entry     | (config-ipsec-transform)                                                                                                                                                                                                                                                       |                                                                                                  |             |             |                                                                    |        |                                                                                                  |
| Synopsis        | <div><pre>(config)&gt; crypto ipsec transform-set &lt;name&gt;</pre><pre>(config)&gt; no crypto ipsec transform-set &lt;name&gt;</pre></div>                                                                                                                                   |                                                                                                  |             |             |                                                                    |        |                                                                                                  |
| Arguments       | <table><tr><th>Argument</th><th>Value</th><th>Description</th></tr><tr><td>name</td><td>String</td><td>IPsec transformation name. Latin letters, numbers, dots, hyphens and underscores are acceptable.</td></tr></table>                                                      | Argument                                                                                         | Value       | Description | name                                                               | String | IPsec transformation name. Latin letters, numbers, dots, hyphens and underscores are acceptable. |
| Argument        | Value                                                                                                                                                                                                                                                                          | Description                                                                                      |             |             |                                                                    |        |                                                                                                  |
| name            | String                                                                                                                                                                                                                                                                         | IPsec transformation name. Latin letters, numbers, dots, hyphens and underscores are acceptable. |             |             |                                                                    |        |                                                                                                  |
| Example         | <div><pre>(config)&gt; crypto ipsec transform-set test</pre><p>IpSec::Manager: "test": crypto ipsec transform-set successfully ► created.</p><pre>(config)&gt; no crypto ipsec transform-set test</pre><p>IpSec::Manager: Crypto ipsec transform-set "test" removed.</p></div> |                                                                                                  |             |             |                                                                    |        |                                                                                                  |
| History         | <table><tr><th>Version</th><th>Description</th></tr><tr><td>2.06</td><td>The <b>crypto ipsec transform-set</b> command has been introduced.</td></tr></table>                                                                                                                  | Version                                                                                          | Description | 2.06        | The <b>crypto ipsec transform-set</b> command has been introduced. |        |                                                                                                  |
| Version         | Description                                                                                                                                                                                                                                                                    |                                                                                                  |             |             |                                                                    |        |                                                                                                  |
| 2.06            | The <b>crypto ipsec transform-set</b> command has been introduced.                                                                                                                                                                                                             |                                                                                                  |             |             |                                                                    |        |                                                                                                  |

### 3.15.1 crypto ipsec transform-set aead

| <b>Description</b>     | Enable <i>AEAD</i> cypher mode on <i>IPsec</i> .                                                                                                                                                                     |         |             |      |                                                                         |
|------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|-------------|------|-------------------------------------------------------------------------|
| <b>Prefix no</b>       | No                                                                                                                                                                                                                   |         |             |      |                                                                         |
| <b>Change settings</b> | No                                                                                                                                                                                                                   |         |             |      |                                                                         |
| <b>Multiple input</b>  | No                                                                                                                                                                                                                   |         |             |      |                                                                         |
| <b>Synopsis</b>        | <pre>(config-ipsec-transform)&gt; <b>aead</b></pre>                                                                                                                                                                  |         |             |      |                                                                         |
| <b>Example</b>         | <pre>(config-ipsec-transform)&gt; <b>dh-group 14</b></pre> <p>IpSec::Manager: "TEST": crypto ipsec transform-set "TEST" enabled ► AEAD mode.</p>                                                                     |         |             |      |                                                                         |
| <b>History</b>         | <table border="1"> <thead> <tr> <th>Version</th><th>Description</th></tr> </thead> <tbody> <tr> <td>3.05</td><td>The <b>crypto ipsec transform-set aead</b> command has been introduced.</td></tr> </tbody> </table> | Version | Description | 3.05 | The <b>crypto ipsec transform-set aead</b> command has been introduced. |
| Version                | Description                                                                                                                                                                                                          |         |             |      |                                                                         |
| 3.05                   | The <b>crypto ipsec transform-set aead</b> command has been introduced.                                                                                                                                              |         |             |      |                                                                         |

## 3.15.2 crypto ipsec transform-set cypher

**Description** Add the selected type of encryption to *IPsec* transformation. The order of adding has a value for data exchange on the *IKE* protocol.

Command with **no** prefix removes the selected type of encryption.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** Yes

**Synopsis**

```
(config-ipsec-transform)> cypher <cypher>
(config-ipsec-transform)> no cypher <cypher>
```

**Arguments**

| Argument | Value       | Description                          |
|----------|-------------|--------------------------------------|
| cypher   | esp-des     | Type of <i>IPsec ESP</i> encryption. |
|          | esp-3des    |                                      |
|          | esp-aes-128 |                                      |
|          | esp-aes-192 |                                      |
|          | esp-aes-256 |                                      |

**Example**

```
(config-ipsec-transform)> cypher esp-3des
IpSec::Manager: "test": crypto ipsec transform-set cypher ►
"esp-3des" successfully added.
```

```
(config-ipsec-transform)> no cypher esp-3des
IpSec::Manager: "test": crypto ipsec transform-set "test" cypher ►
successfully removed.
```

**History**

| Version | Description                                                               |
|---------|---------------------------------------------------------------------------|
| 2.06    | The <b>crypto ipsec transform-set cypher</b> command has been introduced. |

## 3.15.3 crypto ipsec transform-set dh-group

**Description** Add the selected *DH* group to *IPsec* transformation to work in the *PFS* mode. The order of adding has a value for data exchange on the *IKE* protocol.

Command with **no** prefix removes the selected group.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** Yes



**Synopsis**

```
(config-ipsec-transform)> dh-group <dh-group>
```

```
(config-ipsec-transform)> no dh-group <dh-group>
```

**Arguments**

| Argument | Value | Description                                                       |
|----------|-------|-------------------------------------------------------------------|
| dh-group | 1     | <a href="#">DH</a> group to work in the <a href="#">PFS</a> mode. |
|          | 2     |                                                                   |
|          | 5     |                                                                   |
|          | 14    |                                                                   |
|          | 15    |                                                                   |
|          | 16    |                                                                   |
|          | 17    |                                                                   |
|          | 18    |                                                                   |

**Example**

```
(config-ipsec-transform)> dh-group 14
IpSec::Manager: "test": crypto ipsec transform-set dh-group "14" ►
successfully added.
```

```
(config-ipsec-transform)> no dh-group 14
IpSec::Manager: "test": crypto ipsec transform-set "test" ►
dh-group successfully removed.
```

**History**

| Version | Description                                                                 |
|---------|-----------------------------------------------------------------------------|
| 2.06    | The <b>crypto ipsec transform-set dh-group</b> command has been introduced. |

## 3.15.4 crypto ipsec transform-set hmac

**Description**

Add the selected value of [HMAC](#) signature algorithm to [IPsec](#) transformation. The order of adding has a value for data exchange on the [IKE](#) protocol.

Command with **no** prefix removes the selected algorithm.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

Yes

**Synopsis**

```
(config-ipsec-transform)> hmac <hmac>
```

```
(config-ipsec-transform)> no hmac <hmac>
```

**Arguments**

| Argument | Value           | Description                                                         |
|----------|-----------------|---------------------------------------------------------------------|
| hmac     | esp-md5-hmac    | <i>HMAC</i> signature algorithm of <i>IPsec ESP</i> transformation. |
|          | esp-sha1-hmac   |                                                                     |
|          | esp-sha256-hmac |                                                                     |
|          | esp-sha512-hmac |                                                                     |
|          | esp-null-hmac   |                                                                     |

**Example**

```
(config-ipsec-transform)> hmac esp-sha512-hmac
IpSec::Config::TransformSet: "TEST": added auth "esp-sha512-hmac".
```

```
(config-ipsec-transform)> no hmac esp-sha512-hmac
IpSec::Config::TransformSet: "TEST": removed auth ►
"esp-sha512-hmac".
```

**History**

| Version | Description                                                             |
|---------|-------------------------------------------------------------------------|
| 2.06    | The <b>crypto ipsec transform-set hmac</b> command has been introduced. |
| 4.02    | Added support for <b>esp-sha512-hmac</b> on IKE Phase II.               |

## 3.15.5 crypto ipsec transform-set lifetime

**Description**

Set lifetime of selected *IPsec* transformation. By default, the value 3600 is used.

Command with **no** prefix resets setting to default.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

No

**Synopsis**

```
(config-ipsec-transform)> lifetime <lifetime>
```

```
(config-ipsec-transform)> no lifetime
```

**Arguments**

| Argument | Value          | Description                                                                                             |
|----------|----------------|---------------------------------------------------------------------------------------------------------|
| lifetime | <i>Integer</i> | Lifetime of <i>IPsec</i> transformation in seconds. Can take values in the range from 60 to 2147483647. |

**Example**

```
(config-ipsec-transform)> lifetime 8640
IpSec::Manager: "test": crypto ipsec transform-set lifetime set ►
to 8640 s.
```

```
(config-ipsec-transform)> no lifetime
IpSec::Manager: "test": crypto ipsec transform-set lifetime reset.
```

**History**

| Version | Description                                                                 |
|---------|-----------------------------------------------------------------------------|
| 2.06    | The <b>crypto ipsec transform-set lifetime</b> command has been introduced. |

## 3.16 crypto map

**Description**

Access to a group of commands to configure selected *IPsec* crypto map. If crypto map is not found, the command tries to create it.

Command with **no** prefix removes crypto map.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

Yes

**Group entry**

(config-crypto-map)

**Synopsis**

```
(config)> crypto map <name>
```

```
(config)> no crypto map <name>
```

**Arguments**

| Argument | Value         | Description                                                                                         |
|----------|---------------|-----------------------------------------------------------------------------------------------------|
| name     | <i>String</i> | <i>IPsec</i> crypto map name. Latin letters, numbers, dots, hyphens and underscores are acceptable. |

**Example**

```
(config)> crypto map test
IpSec::Manager: "test": crypto map successfully created.
```

```
(config)> no crypto map test
IpSec::Manager: Crypto map profile "test" removed.
```

**History**

| Version | Description                                        |
|---------|----------------------------------------------------|
| 2.06    | The <b>crypto map</b> command has been introduced. |

### 3.16.1 crypto map connect

**Description**

Enable automatic unconditional *IPsec* connection to the remote host. Setting has no meaning if basic remote host was set to any (see **crypto map set-peer** command). By default, setting is disabled and connection is established when attempting to transmit traffic through the *IPsec ESP* transformation.

Command with **no** prefix disables automatic unconditional connection.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Synopsis**

```
(config-crypto-map)> connect
(config-crypto-map)> no connect
```

**Example**

```
(config-crypto-map)> connect
IpSec::Manager: "test": crypto map autoconnect enabled.

(config-crypto-map)> no connect
IpSec::Manager: "test": crypto map autoconnect disabled.
```

**History**

| Version | Description                                                |
|---------|------------------------------------------------------------|
| 2.06    | The <b>crypto map connect</b> command has been introduced. |

## 3.16.2 crypto map enable

**Description** Enable selected *IPsec* crypto map. By default, setting is enabled.

Command with **no** prefix disables crypto map.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Synopsis**

```
(config-crypto-map)> enable
(config-crypto-map)> no enable
```

**Example**

```
(config-crypto-map)> enable
IpSec::Manager: "test": crypto map enabled.

(config-crypto-map)> no enable
IpSec::Manager: "test": crypto map disabled.
```

**History**

| Version | Description                                               |
|---------|-----------------------------------------------------------|
| 2.06    | The <b>crypto map enable</b> command has been introduced. |

### 3.16.3 crypto map fallback-check-interval

**Description** Enable periodic checking of basic host availability and return to it in case of presence basic and backup remote hosts both. By default, setting is disabled.

Command with **no** prefix disables checking.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Synopsis**

```
(config-crypto-map)> fallback-check-interval interval-value
(config-crypto-map)> no fallback-check-interval
```

**Arguments**

| Argument       | Value          | Description                                                                   |
|----------------|----------------|-------------------------------------------------------------------------------|
| interval-value | <i>Integer</i> | Period of checking in seconds. Can take values in the range from 60 to 86400. |

**Example**

```
(config-crypto-map)> fallback-check-interval 120
IpSec::Manager: "test": crypto map fallback check interval is ►
set to 120.
```

```
(config-crypto-map)> no fallback-check-interval
IpSec::Manager: "test": crypto map fallback check interval is ►
cleared.
```

**History**

| Version | Description                                                                |
|---------|----------------------------------------------------------------------------|
| 2.06    | The <b>crypto map fallback-check-interval</b> command has been introduced. |

### 3.16.4 crypto map force-encaps

**Description** Enforce the [ESP](#) packet wrapping mode in [UDP](#) to bypass the firewall and NAT.

Command with **no** prefix disables the mode.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Synopsis**

```
(config-crypto-map)> force-encaps
(config-crypto-map)> no force-encaps
```

**Example**

```
(config-crypto-map)> force-encaps
IpSec::Manager: "test": crypto map force ESP in UDP encapsulation ►
enabled.
```

```
(config-crypto-map)> no force-encaps
IpSec::Manager: "test": crypto map force ESP in UDP encapsulation ►
disabled.
```

**History**

| Version | Description                                                     |
|---------|-----------------------------------------------------------------|
| 2.08    | The <b>crypto map force-encaps</b> command has been introduced. |

## 3.16.5 crypto map l2tp-server dhcp route

**Description**

Assign a route which is transmitted in DHCP INFORM messages to the [L2TP](#) server clients.

Command with **no** prefix cancels the specified route. If you use no arguments, the entire list of routes will be cleared.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

Yes

**Synopsis**

```
(config-crypto-map)> l2tp-server dhcp route <address> <mask>
```

```
(config-crypto-map)> no l2tp-server dhcp route [ <address> <mask> ]
```

**Arguments**

| Argument | Value             | Description                                                                                                                                                      |
|----------|-------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| address  | <i>IP address</i> | Network client address.                                                                                                                                          |
| mask     | <i>IP-mask</i>    | Network client mask. There are two ways to enter the mask: the canonical form (for example, 255.255.255.0) and the form of prefix bit length (for example, /24). |

**Example**

```
(config-crypto-map)> l2tp-server dhcp route 192.168.2.0/24
IpSec::Manager: "VPNLT2TPServer": crypto map L2TP/IPsec server ►
added DHCP INFORM route to 192.168.2.0/255.255.255.0.
```

```
(config-crypto-map)> l2tp-server no dhcp route
IpSec::Manager: "VPNLT2TPServer": Cleared DHCP INFORM routes.
```

**History**

| Version | Description                                                               |
|---------|---------------------------------------------------------------------------|
| 2.12    | The <b>crypto map l2tp-server dhcp route</b> command has been introduced. |

### 3.16.6 crypto map l2tp-server enable

**Description** Enable [L2TP](#) server on [IPsec](#) crypto map. By default, the setting is enabled.  
Command with **no** prefix disables the setting.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Synopsis**

```
(config-crypto-map)> l2tp-server enable
(config-crypto-map)> no l2tp-server enable
```

**Example**

```
(config-crypto-map)> l2tp-server enable
IpSec::Manager: "VPNL2TPServer": crypto map L2TP/IPsec server ► enabled.

(config-crypto-map)> no l2tp-server enable
IpSec::Manager: "VPNL2TPServer": crypto map L2TP/IPsec server ► disabled.
```

#### History

| Version | Description                                                           |
|---------|-----------------------------------------------------------------------|
| 2.11    | The <b>crypto map l2tp-server enable</b> command has been introduced. |

### 3.16.7 crypto map l2tp-server interface

**Description** Bind [L2TP](#) server to the specified interface.  
Command with **no** prefix unbinds the server.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Synopsis**

```
(config-crypto-map)> l2tp-server interface <interface>
(config-crypto-map)> no l2tp-server interface
```

#### Arguments

| Argument  | Value            | Description                                                                                                                                   |
|-----------|------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|
| interface | <i>Interface</i> | Full name or an alias of the interface. You can see the list of available interfaces with help of <b>l2tp-server interface [Tab]</b> command. |

**Example**

```
(config-crypto-map)> l2tp-server interface [Tab]
```

```
Usage template:
  interface {interface}
```

```
Choose:
```

```
      GigabitEthernet1
      ISP
WifiMaster0/AccessPoint2
WifiMaster1/AccessPoint1
WifiMaster0/AccessPoint3
WifiMaster0/AccessPoint0
      AccessPoint
WifiMaster1/AccessPoint2
WifiMaster0/AccessPoint1
      GuestWiFi
```

```
(config-crypto-map)> l2tp-server interface ISP
```

```
IpSec::Manager: "VPNL2TPServer": crypto map L2TP/IPsec server ►
is bound to ISP.
```

```
(config-crypto-map)> no l2tp-server interface ISP
```

```
IpSec::Manager: "VPNL2TPServer": crypto map L2TP/IPsec server ►
is unbound.
```

**History**

| Version | Description                                                              |
|---------|--------------------------------------------------------------------------|
| 2.11    | The <b>crypto map l2tp-server interface</b> command has been introduced. |

## 3.16.8 crypto map l2tp-server ipv6cp

**Description**

Enable IPv6 support. DHCP IPv6 pools are created for each [L2TP](#) server. By default, the setting is disabled.

Command with **no** prefix disables IPv6 support.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

No

**Synopsis**

```
(config-crypto-map)> l2tp-server ipv6cp
```

```
(config-crypto-map)> no l2tp-server ipv6cp
```

**Example**

```
(config-crypto-map)> l2tp-server ipv6cp
```

```
IpSec::Manager: "VPNL2TPServer": crypto map L2TP/IPsec server ►
IPv6CP is enabled.
```



```
(config-crypto-map)> no l2tp-server ipv6cp
IpSec::Manager: "VPNLTTPServer": crypto map L2TP/IPsec server ►
IPv6CP is disabled.
```

**History**

| Version | Description                                                           |
|---------|-----------------------------------------------------------------------|
| 3.00    | The <b>crypto map l2tp-server ipv6cp</b> command has been introduced. |

## 3.16.9 crypto map l2tp-server lcp echo

**Description** Specify the testing rules of the *L2TP* server connections with *LCP* echo tools.  
Command with **no** prefix disables *LCP* echo.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Synopsis**

```
(config-crypto-map)> l2tp-server lcp echo <interval> <count>
(config-crypto-map)> no l2tp-server lcp echo
```

**Arguments**

| Argument | Value          | Description                                                                                                                                                                                                                         |
|----------|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| interval | <i>Integer</i> | Interval between sending <i>LCP</i> echo, in seconds. If within the specified time interval there is no <i>LCP</i> echo request from the remote location, the same request will be sent there asking for response <i>LCP</i> reply. |
| count    | <i>Integer</i> | The number of consecutive requests <i>LCP</i> echo sent, for which no response <i>LCP</i> reply was received. If count of <i>LCP</i> echo requests goes unanswered, the connection is terminated.                                   |

**Example**

```
(config-crypto-map)> l2tp-server lcp echo 5 3
IpSec::Manager: "VPNLTTPServer": crypto map L2TP/IPsec server ►
set LCP echo to "5" : "3".
```

```
(config-crypto-map)> no l2tp-server lcp echo
IpSec::Manager: "VPNLTTPServer": crypto map L2TP/IPsec server ►
LCP echo disabled.
```

**History**

| Version | Description                                                             |
|---------|-------------------------------------------------------------------------|
| 2.11    | The <b>crypto map l2tp-server lcp echo</b> command has been introduced. |

### 3.16.10 crypto map l2tp-server mru

**Description** Set [MRU](#) value to be transmitted to [L2TP](#) server. By default, 1200 value is used.

Command with **no** prefix resets value to default.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Synopsis**

```
(config-crypto-map)> l2tp-server mru <mr>
(config-crypto-map)> no l2tp-server mru
```

**Arguments**

| Argument | Value          | Description                                                                           |
|----------|----------------|---------------------------------------------------------------------------------------|
| mru      | <i>Integer</i> | <a href="#">MRU</a> value. Can take values in the range from 128 to 1500 inclusively. |

**Example**

```
(config-crypto-map)> l2tp-server mru 1500
IpSec::Manager: "VPNL2TPServer": crypto map L2TP/IPsec server ►
set MRU to "1500".
```

```
(config-crypto-map)> no l2tp-server mru
IpSec::Manager: "VPNL2TPServer": crypto map L2TP/IPsec server ►
MRU reset to default.
```

**History**

| Version | Description                                                        |
|---------|--------------------------------------------------------------------|
| 2.11    | The <b>crypto map l2tp-server mru</b> command has been introduced. |

### 3.16.11 crypto map l2tp-server mtu

**Description** Set [MTU](#) value to be transmitted to [L2TP](#) server. By default, 1400 value is used.

Command with **no** prefix resets value to default.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Synopsis**

```
(config-crypto-map)> l2tp-server mtu <mtu>
(config-crypto-map)> no l2tp-server mtu
```

**Arguments**

| Argument | Value          | Description                                                                  |
|----------|----------------|------------------------------------------------------------------------------|
| mtu      | <i>Integer</i> | <i>MTU</i> value. Can take values in the range from 576 to 1500 inclusively. |

**Example**

```
(config-crypto-map)> l2tp-server mtu 1400
IpSec::Manager: "VPNL2TPServer": crypto map L2TP/IPsec server ►
set MTU to "1400".
```

```
(config-crypto-map)> no l2tp-server mtu
IpSec::Manager: "VPNL2TPServer": crypto map L2TP/IPsec server ►
MTU reset to default.
```

**History**

| Version | Description                                                        |
|---------|--------------------------------------------------------------------|
| 2.11    | The <b>crypto map l2tp-server mtu</b> command has been introduced. |

## 3.16.12 crypto map l2tp-server multi-login

**Description**

Allow connection to *L2TP* server for multiple users from one account.

Command with **no** prefix disables the feature.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

No

**Synopsis**

```
(config-crypto-map)> l2tp-server multi-login
```

```
(config-crypto-map)> no l2tp-server multi-login
```

**Example**

```
(config-crypto-map)> l2tp-server multi-login
IpSec::Manager: "VPNL2TPServer": crypto map L2TP/IPsec server ►
multiple login is enabled.
```

```
(config-crypto-map)> no l2tp-server multi-login
IpSec::Manager: "VPNL2TPServer": crypto map L2TP/IPsec server ►
multiple login is disabled.
```

**History**

| Version | Description                                                                |
|---------|----------------------------------------------------------------------------|
| 2.11    | The <b>crypto map l2tp-server multi-login</b> command has been introduced. |

### 3.16.13 crypto map l2tp-server nat

**Description** Enable translation of addresses for [L2TP](#) server.  
Command with **no** prefix disables the translation.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Synopsis**

```
(config-crypto-map)> l2tp-server nat
(config-crypto-map)> no l2tp-server nat
```

**Example**

```
(config-crypto-map)> l2tp-server nat
IpSec::Manager: "VPNL2TPServer": crypto map L2TP/IPsec server ►
SNAT is enabled.

(config-crypto-map)> no l2tp-server nat
IpSec::Manager: "VPNL2TPServer": crypto map L2TP/IPsec server ►
SNAT is disabled.
```

| History | Version | Description                                                        |
|---------|---------|--------------------------------------------------------------------|
|         | 2.11    | The <b>crypto map l2tp-server nat</b> command has been introduced. |

### 3.16.14 crypto map l2tp-server range

**Description** Assign a pool of addresses for the clients of [L2TP](#) server. By default, size 100 is used.

Command with **no** prefix removes a pool.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Synopsis**

```
(config-crypto-map)> l2tp-server range <begin> <end> | <size>
(config-crypto-map)> no l2tp-server range
```

| Arguments | Argument | Value             | Description            |
|-----------|----------|-------------------|------------------------|
|           | begin    | <i>IP address</i> | Start address of pool. |
|           | end      | <i>IP address</i> | End address of pool.   |
|           | size     | <i>Integer</i>    | Pool size.             |

**Example**

```
(config-crypto-map)> l2tp-server range 172.16.2.33 172.16.2.38
IpSec::Manager: "VPNLTTPServer": crypto map L2TP/IPsec server ►
pool range set from "172.16.2.33" to "172.16.2.38".
```

```
(config-crypto-map)> l2tp-server range 172.16.2.33 100
IpSec::Manager: "VPNLTTPServer": crypto map L2TP/IPsec server ►
pool range set from "172.16.2.33" to "172.16.2.132".
```

```
(config-crypto-map)> no l2tp-server range
IpSec::Manager: "VPNLTTPServer": crypto map L2TP/IPsec server ►
pool range deleted.
```

**History**

| Version | Description                                                          |
|---------|----------------------------------------------------------------------|
| 2.11    | The <b>crypto map l2tp-server range</b> command has been introduced. |

## 3.16.15 crypto map l2tp-server session-logout

**Description**

Terminate an active or stalled session on the [L2TP](#) server.

**Prefix no**

No

**Change settings**

Yes

**Multiple input**

No

**Synopsis**

```
(config-crypto-map)> session-logout <session>
```

**Arguments**

| Argument | Value          | Description                                                                                       |
|----------|----------------|---------------------------------------------------------------------------------------------------|
| session  | <i>Integer</i> | Identifier of the L2TP session (can be viewed using the <a href="#">show crypto map</a> command). |

**Example**

```
(config-crypto-map)> session-logout 3
IpSec::L2tp::Manager: Session "3" is terminated.
```

**History**

| Version | Description                                                                   |
|---------|-------------------------------------------------------------------------------|
| 4.03    | The <b>crypto map l2tp-server session-logout</b> command has been introduced. |

## 3.16.16 crypto map l2tp-server session-preempt

**Description**

Enable to preempt VPN sessions when [crypto map l2tp-server multi-login](#) option is disabled for the [L2TP](#) server.

Command with **no** prefix disables the preempt.

**Prefix no**

Yes

**Change settings** Yes**Multiple input** No

**Synopsis**

```
(config-crypto-map)> l2tp-server session-preempt
(config-crypto-map)> no l2tp-server session-preempt
```

**Example**

```
(config-crypto-map)> l2tp-server session-preempt
IpSec::L2tp::Manager: Enabled session preemption.

(config-crypto-map)> no l2tp-server session-preempt
IpSec::L2tp::Manager: Disabled session preemption.
```

**History**

| Version | Description                                                                    |
|---------|--------------------------------------------------------------------------------|
| 4.03    | The <b>crypto map l2tp-server session-preempt</b> command has been introduced. |

### 3.16.17 crypto map l2tp-server static-ip

**Description** Bind IP address to the user. User account must have ipsec-l2tp tag.

Command with **no** prefix removes binding.

**Prefix no** Yes**Change settings** Yes**Multiple input** No

**Synopsis**

```
(config-crypto-map)> static-ip <user> <address>
(config-crypto-map)> no static-ip <user>
```

**Arguments**

| Argument | Value             | Description         |
|----------|-------------------|---------------------|
| user     | <i>String</i>     | Username.           |
| address  | <i>IP address</i> | IP address to bind. |

**Example**

```
(config-crypto-map)> l2tp-server static-ip admin 172.16.2.33
IpSec::Manager: "VPNLTTPServer": crypto map L2TP/IPsec server ►
static IP "172.16.2.33" assigned to user "admin".

(config-crypto-map)> no l2tp-server static-ip admin
IpSec::Manager: "VPNLTTPServer": crypto map L2TP/IPsec server ►
static IP removed for user "admin".
```

| History | Version | Description                                                              |
|---------|---------|--------------------------------------------------------------------------|
|         | 2.11    | The <b>crypto map l2tp-server static-ip</b> command has been introduced. |

### 3.16.18 crypto map nail-up

**Description** Enable automatic renegotiation of *IPsec ESP* transformations at their obsolescence. By default, setting is disabled.

Command with **no** prefix disables automatic renegotiation.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Synopsis**

```
(config-crypto-map)>  nail-up
(config-crypto-map)> no nail-up
```

**Example**

```
(config-crypto-map)> nail-up
IpSec::Manager: "test": crypto map SA renegotiation enabled.
```

```
(config-crypto-map)> no nail-up
IpSec::Manager: "test": crypto map SA renegotiation disabled.
```

| History | Version | Description                                                |
|---------|---------|------------------------------------------------------------|
|         | 2.06    | The <b>crypto map nail-up</b> command has been introduced. |

### 3.16.19 crypto map reauth-passive

**Description** Enable passive reauthentication of *IPsec* crypto map. By default, setting is disabled.

Command with **no** prefix disables passive reauthentication.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Synopsis**

```
(config-crypto-map)>  reauth-passive
(config-crypto-map)> no reauth-passive
```

**Example**

```
(config-crypto-map)> reauth-passive
IpSec::Manager: "VPNLT2TPServer": crypto map SA passive ►
reauthentication enabled.
```

```
(config-crypto-map)> no reauth-passive
IpSec::Manager: "VPNLT2TPServer": crypto map SA passive ►
reauthentication disabled.
```

**History**

| Version | Description                                                       |
|---------|-------------------------------------------------------------------|
| 2.11    | The <b>crypto map reauth-passive</b> command has been introduced. |

## 3.16.20 crypto map set-peer

**Description**

Set basic remote host for *IPsec* connection.

Command with **no** prefix removes the setting.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

No

**Synopsis**

```
(config-crypto-map)> set-peer <remote-ip>
```

```
(config-crypto-map)> no set-peer
```

**Arguments**

| Argument  | Value         | Description                               |
|-----------|---------------|-------------------------------------------|
| remote-ip | <i>String</i> | IP address or domain name of remote host. |
|           | any           | Accept any incoming connections.          |

**Example**

```
(config-crypto-map)> set-peer ipsec.test.com
IpSec::Manager: "test": crypto map primary remote peer is set ►
to "ipsec.test.com".
```

```
(config-crypto-map)> no set-peer
IpSec::Manager: "test": crypto map remote primary and fallback ►
peer reset.
```

**History**

| Version | Description                                                 |
|---------|-------------------------------------------------------------|
| 2.06    | The <b>crypto map set-peer</b> command has been introduced. |



### 3.16.21 crypto map set-peer-fallback

**Description** Set backup remote host for *IPsec* connection. This setting can be made after assignment of basic host (see [crypto map set-peer](#) command).

Command with **no** prefix removes the setting.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Synopsis**

```
(config-crypto-map)> set-peer-fallback <remote-ip>
(config-crypto-map)> no set-peer-fallback
```

**Arguments**

| Argument  | Value         | Description                               |
|-----------|---------------|-------------------------------------------|
| remote-ip | <i>String</i> | IP address or domain name of remote host. |

**Example**

```
(config-crypto-map)> set-peer-fallback test.com
IpSec::Manager: "test": crypto map fallback remote peer cannot ►
be set without primary peer.
```

```
(config-crypto-map)> no set-peer-fallback
IpSec::Manager: "test": crypto map fallback remote peer reset.
```

**History**

| Version | Description                                                          |
|---------|----------------------------------------------------------------------|
| 2.06    | The <b>crypto map set-peer-fallback</b> command has been introduced. |

### 3.16.22 crypto map set-profile

**Description** Set the reference to existing *IPsec* profile (see [crypto ipsec profile](#) command).

Command with **no** prefix removes the reference.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Synopsis**

```
(config-crypto-map)> set-profile <profile>
(config-crypto-map)> no set-profile
```

**Arguments**

| Argument | Value         | Description                                                                                                          |
|----------|---------------|----------------------------------------------------------------------------------------------------------------------|
| profile  | <i>String</i> | <i>IPsec</i> profile name. You can see the list of available profiles with help of <b>set-profile</b> [Tab] command. |

**Example**

```
(config-crypto-map)> set-profile [Tab]
```

Usage template:

```
set-profile {name: {A-Z, a-z, 0-9, ., _, -}}
```

Choose:

```
TEST
```

```
MYMY
```

```
VirtualIPServer
```

```
VPNL2TPServer
```

```
(config-crypto-map)> set-profile test
```

```
IpSec::Manager: "test": crypto map ipsec profile is set to "test".
```

```
(config-crypto-map)> no set-profile
```

```
IpSec::Manager: "test": crypto map ipsec profile reset.
```

**History**

| Version | Description                                                    |
|---------|----------------------------------------------------------------|
| 2.06    | The <b>crypto map set-profile</b> command has been introduced. |

## 3.16.23 crypto map set-tcpmss

**Description**

Set the limit on the segment size of outgoing *TCP* sessions within *IPsec* tunnel. If the *MSS* value, which is transmitted in the header of SYN-packets, exceeds the specified limit, command changes it. Path MTU Discovery mode allows automatically identify *MSS* limit.

Command with **no** prefix removes all limits from *MSS*.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

No

**Synopsis**

```
(config-crypto-map)> set-tcpmss <mss-value>
```

```
(config-crypto-map)> no set-tcpmss
```

**Arguments**

| Argument  | Value          | Description                                                            |
|-----------|----------------|------------------------------------------------------------------------|
| mss-value | <i>Integer</i> | <i>MSS</i> upper limit. Can take values in the range from 576 to 1500. |

| Argument | Value | Description                     |
|----------|-------|---------------------------------|
|          | pmtu  | Enable Path MTU Discovery mode. |

**Example**

```
(config-crypto-map)> set-tcpmss 1280
IpSec::Manager: "test": crypto map tcpmss set to 1280.
```

```
(config-crypto-map)> no set-tcpmss
IpSec::Manager: "test": crypto map tcpmss reset.
```

**History**

| Version | Description                                                   |
|---------|---------------------------------------------------------------|
| 2.06    | The <b>crypto map set-tcpmss</b> command has been introduced. |

## 3.16.24 crypto map set-transform

**Description**

Set the reference to existing *IPsec ESP* transformation (see [crypto ipsec transform-set](#) command).

Command with **no** prefix removes the reference.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

No

**Synopsis**

```
(config-crypto-map)> set-transform <transform-set>
```

```
(config-crypto-map)> no set-transform
```

**Arguments**

| Argument      | Value  | Description                                                                                                                          |
|---------------|--------|--------------------------------------------------------------------------------------------------------------------------------------|
| transform-set | String | <i>IPsec</i> transformation name. You can see the list of available transformations with help of <b>set-transform [Tab]</b> command. |

**Example**

```
(config-crypto-map)> set-transform [Tab]
Usage template:
  set-transform {name: {A-Z, a-z, 0-9, ., _, -}}
```

```
Choose:
VirtualIPServer
VPNL2TPServer
```

```
(config-crypto-map)> set-transform test
IpSec::Manager: "test": crypto map ipsec transform-set is set ►
to "test".
```

```
(config-crypto-map)> no set-transform
IpSec::Manager: "test": crypto map ipsec transform-set reset.
```

**History**

| Version | Description                                                      |
|---------|------------------------------------------------------------------|
| 2.06    | The <b>crypto map set-transform</b> command has been introduced. |

## 3.16.25 crypto map traffic-selectors

**Description** Assign an object group as *IPsec* Phase 2 selectors.

Command with **no** prefix removes the setting.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Synopsis**

```
(config-crypto-map)> traffic-selectors <local> <remote>
```

```
(config-crypto-map)> no traffic-selectors
```

**Arguments**

| Argument | Value         | Description                  |
|----------|---------------|------------------------------|
| local    | <i>String</i> | Name of local object group.  |
| remote   | <i>String</i> | Name of remote object group. |

**Example**

```
(config-crypto-map)> traffic-selectors ►
 WEBADMIN_IPSEC_VPNL2TPServe-local ►
 WEBADMIN_IPSEC_VPNL2TPServe-remote
IpSec::Config::CryptoMap: "test": set traffic-selectors to ►
 "_WEBADMIN_IPSEC_VPNL2TPServer-local": ►
 "_WEBADMIN_IPSEC_VPNL2TPServer-remote".
```

```
(config-crypto-map)> no traffic-selectors
IpSec::Config::CryptoMap: "test": reset traffic-selectors.
```

**History**

| Version | Description                                                          |
|---------|----------------------------------------------------------------------|
| 4.00    | The <b>crypto map traffic-selectors</b> command has been introduced. |

## 3.16.26 crypto map tunnel-interface

**Description** Assign the *XFRM* interface to a crypto map for site-to-site traffic routing.

Command with **no** prefix removes the setting.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Synopsis**

```
(config-crypto-map)> tunnel-interface <interface>
(config-crypto-map)> no tunnel-interface
```

**Arguments**

| Argument  | Value            | Description                 |
|-----------|------------------|-----------------------------|
| interface | <i>Interface</i> | Full name of the interface. |

**Example**

```
(config-crypto-map)> tunnel-interface XFRM0
IpSec::Config::CryptoMap: "TEST": linked tunnel interface "XFRM0".
```

```
(config-crypto-map)> no tunnel-interface
IpSec::Config::CryptoMap: "TEST": reset tunnel interface.
```

**History**

| Version | Description                                                         |
|---------|---------------------------------------------------------------------|
| 4.01    | The <b>crypto map tunnel-interface</b> command has been introduced. |

## 3.16.27 crypto map virtual-ip dhcp route

**Description** Assign a route which is transmitted in DHCP INFORM messages to the Virtual IP server clients.

Command with **no** prefix deletes the specified route. If you use no arguments, the entire list of routes will be cleared.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** Yes

**Synopsis**

```
(config-crypto-map)> virtual-ip dhcp route <address> <mask>
(config-crypto-map)> no virtual-ip dhcp route [ <address> <mask> ]
```

**Arguments**

| Argument | Value             | Description                                                                                                                                                      |
|----------|-------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| address  | <i>IP address</i> | Network client address.                                                                                                                                          |
| mask     | <i>IP-mask</i>    | Network client mask. There are two ways to enter the mask: the canonical form (for example, 255.255.255.0) and the form of prefix bit length (for example, /24). |

**Example**

```
(config-crypto-map)> virtual-ip dhcp route 192.168.2.0/24
IpSec::ManagerVirtualIp: "VirtualIPServerIKE2": crypto map ►
Virtual IP server added DHCP INFORM route to ►
192.168.2.0/255.255.255.0.
```

```
(config-crypto-map)> no virtual-ip dhcp route 192.168.2.0/24
IpSec::ManagerVirtualIp: "VirtualIPServerIKE2": crypto map ►
Virtual IP server DHCP INFORM route to 192.168.2.0/255.255.255.0 ►
removed.
```

```
(config-crypto-map)> no virtual-ip dhcp route
IpSec::ManagerVirtualIp: "VirtualIPServerIKE2": crypto map ►
Virtual IP server DHCP INFORM routes cleared.
```

**History**

| Version | Description                                                              |
|---------|--------------------------------------------------------------------------|
| 3.06    | The <b>crypto map virtual-ip dhcp route</b> command has been introduced. |

## 3.16.28 crypto map virtual-ip dns-server

**Description**

Set [DNS](#) server issued to clients in Virtual IP server mode.

Command with **no** prefix deletes the address.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

No

**Synopsis**

```
(config-crypto-map)> virtual-ip dns-server <address>
```

```
(config-crypto-map)> no virtual-ip dns-server
```

**Arguments**

| Argument | Value             | Description                               |
|----------|-------------------|-------------------------------------------|
| address  | <i>IP address</i> | IP address of <a href="#">DNS</a> server. |

**Example**

```
(config-crypto-map)> virtual-ip dns-server 10.5.5.5
IpSec::Manager: "test": crypto map Virtual IP DNS server set to ►
"10.5.5.5".
```

```
(config-crypto-map)> no virtual-ip dns-server
IpSec::Manager: "test": crypto map Virtual IP DNS server deleted.
```

**History**

| Version | Description                                                              |
|---------|--------------------------------------------------------------------------|
| 2.08    | The <b>crypto map virtual-ip dns-server</b> command has been introduced. |

### 3.16.29 crypto map virtual-ip enable

**Description** Enable Virtual IP server mode, when clients receive addresses from a given range. The value of a remote subnet, specified in the corresponding access-list, will be ignored. By default, the setting is disabled.

Command with **no** prefix disables the setting.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Synopsis**

```
(config-crypto-map)> virtual-ip enable
(config-crypto-map)> no virtual-ip enable
```

**Example**

```
(config-crypto-map)> virtual-ip enable
IpSec::Manager: "test": crypto map Virtual IP mode enabled.

(config-crypto-map)> no virtual-ip enable
IpSec::Manager: "test": crypto map Virtual IP mode disabled.
```

#### History

| Version | Description                                                          |
|---------|----------------------------------------------------------------------|
| 2.08    | The <b>crypto map virtual-ip enable</b> command has been introduced. |

### 3.16.30 crypto map virtual-ip interface

**Description** Bind Virtual IP server to the specified interface.

Command with **no** prefix unbinds the interface.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Synopsis**

```
(config-crypto-map)> virtual-ip interface interface
(config-crypto-map)> no virtual-ip interface
```

#### Arguments

| Argument  | Value            | Description                                                                                                                |
|-----------|------------------|----------------------------------------------------------------------------------------------------------------------------|
| interface | <i>Interface</i> | Full interface name or an alias. You can see the list of available interfaces with help of <b>interface</b> [Tab] command. |

**Example**

```
(config-crypto-map)> virtual-ip interface Bridge0
IpSec::VirtualIp::CryptoMap: "VirtualIPServerIKE2": bound to ►
Bridge0.
```

```
(config-crypto-map)> no virtual-ip interface
IpSec::VirtualIp::CryptoMap: "VirtualIPServerIKE2": unbound.
```

**History**

| Version | Description                                                             |
|---------|-------------------------------------------------------------------------|
| 4.02    | The <b>crypto map virtual-ip interface</b> command has been introduced. |

### 3.16.31 crypto map virtual-ip multi-login

**Description**

Allow connection to Virtual IP server for multiple users from one account.

Command with **no** prefix disables the feature.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

No

**Synopsis**

```
(config-crypto-map)> virtual-ip multi-login
```

```
(config-crypto-map)> no virtual-ip multi-login
```

**Example**

```
(config-crypto-map)> virtual-ip multi-login
IpSec::Manager: "VirtualIPServer": crypto map Virtual IP server ►
multiple login is enabled.
```

```
(config-crypto-map)> no virtual-ip multi-login
IpSec::Manager: "VirtualIPServer": crypto map Virtual IP server ►
multiple login is disabled.
```

**History**

| Version | Description                                                               |
|---------|---------------------------------------------------------------------------|
| 3.05    | The <b>crypto map virtual-ip multi-login</b> command has been introduced. |

### 3.16.32 crypto map virtual-ip nat

**Description**

Enable translation for remote network of Virtual IP extension server.

Command with **no** prefix removes the rule.

**Prefix no**

Yes

**Change settings**

Yes



**Multiple input** No

**Synopsis**

```
(config-crypto-map)> virtual-ip nat
(config-crypto-map)> no virtual-ip nat
```

**Example**

```
(config-crypto-map)> virtual-ip nat
IpSec::Manager: "test": crypto map Virtual IP remote pool SNAT ►
is enabled.

(config-crypto-map)> no virtual-ip nat
IpSec::Manager: "test": crypto map Virtual IP remote pool SNAT ►
is disabled.
```

**History**

| Version | Description                                                       |
|---------|-------------------------------------------------------------------|
| 2.08    | The <b>crypto map virtual-ip nat</b> command has been introduced. |

### 3.16.33 crypto map virtual-ip range

**Description** Configure the range of addresses issued to clients in Virtual IP server mode. Command with **no** prefix removes the range.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Synopsis**

```
(config-crypto-map)> virtual-ip range <begin> ( <end> | <size> )
(config-crypto-map)> no virtual-ip range
```

**Arguments**

| Argument | Value             | Description                         |
|----------|-------------------|-------------------------------------|
| begin    | <i>IP address</i> | The beginning of the address range. |
| end      | <i>IP address</i> | The end of the address range.       |
| size     | <i>Integer</i>    | Address range size.                 |

**Example**

```
(config-crypto-map)> virtual-ip range 10.5.0.0 20
IpSec::Manager: "test": crypto map Virtual IP pool range set ►
from "10.5.0.0" to "10.5.0.19" (CIDR 10.5.0.0/27).

(config-crypto-map)> no virtual-ip range
IpSec::Manager: "test": crypto map Virtual IP pool range deleted.
```

**History**

| Version | Description                                                         |
|---------|---------------------------------------------------------------------|
| 2.08    | The <b>crypto map virtual-ip range</b> command has been introduced. |

## 3.16.34 crypto map virtual-ip session-logout

**Description** Terminate an active or stalled session on the Virtual IP server.

**Prefix no** No

**Change settings** Yes

**Multiple input** No

**Synopsis** `(config-crypto-map)> session-logout <session>`

**Arguments**

| Argument | Value          | Description                                                                                      |
|----------|----------------|--------------------------------------------------------------------------------------------------|
| session  | <i>Integer</i> | Identifier of the IKE session (can be viewed using the <a href="#">show crypto map</a> command). |

**Example**

```
(config-crypto-map)> session-logout 1
IpSec::VirtualIp::Manager: Session "1" is terminated.
```

**History**

| Version | Description                                                                  |
|---------|------------------------------------------------------------------------------|
| 4.03    | The <b>crypto map virtual-ip session-logout</b> command has been introduced. |

## 3.16.35 crypto map virtual-ip session-preempt

**Description** Enable to preempt VPN sessions when [crypto map virtual-ip multi-login](#) option is disabled for the IKEv1 or IKEv2 *IPSec* server.

Command with **no** prefix disables the preempt.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Synopsis** `(config-crypto-map)> virtual-ip session-preempt`  
`(config-crypto-map)> no virtual-ip session-preempt`

**Example**

```
(config-crypto-map)> virtual-ip session-preempt
IpSec::VirtualIp::CryptoMap: "VirtualIPServerIKE2": enable ►
session preemption.
```

```
(config-crypto-map)> no virtual-ip session-preempt
IpSec::VirtualIp::CryptoMap: "VirtualIPServerIKE2": disable ►
session preemption.
```

**History**

| Version | Description                                                                   |
|---------|-------------------------------------------------------------------------------|
| 4.03    | The <b>crypto map virtual-ip session-preempt</b> command has been introduced. |

## 3.16.36 crypto map virtual-ip static-ip

**Description** Bind IP address to the user. User account must have ipsec-xauth tag.

Command with **no** prefix removes binding.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** Yes

**Synopsis**

```
(config-crypto-map)> virtual-ip static-ip <user> <address>
(config-crypto-map)> no virtual-ip static-ip <user>
```

**Arguments**

| Argument | Value             | Description         |
|----------|-------------------|---------------------|
| user     | <i>String</i>     | Username.           |
| address  | <i>IP address</i> | IP address to bind. |

**Example**

```
(config-crypto-map)> virtual-ip static-ip admin 172.20.0.1
IpSec::ManagerVirtualIp: "VirtualIPServer": crypto map Virtual ►
IP server static address "172.20.0.1" assigned to user "admin".
```

```
(config-crypto-map)> no virtual-ip static-ip admin
IpSec::ManagerVirtualIp: "VirtualIPServer": crypto map Virtual ►
IP server static address removed for user "admin".
```

**History**

| Version | Description                                                             |
|---------|-------------------------------------------------------------------------|
| 3.05    | The <b>crypto map virtual-ip static-ip</b> command has been introduced. |

## 3.17 dns-proxy

**Description** Access to a group of commands to manage DNS proxy service.

**Prefix no** No

**Change settings** No

**Multiple input** No

**Group entry** (config-dnspx)

**Synopsis** (config)> **dns-proxy**

**Example** (config)> **dns-proxy**  
Core::Configurator: Done.  
(config-dnspx)>

**History**

| Version | Description                                       |
|---------|---------------------------------------------------|
| 2.04    | The <b>dns-proxy</b> command has been introduced. |

### 3.17.1 dns-proxy debug

**Description** Enable debug for the DNS proxy service. By default, setting is disabled.  
Command with **no** prefix disables the feature.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** Yes

**Synopsis** (config-dnspx)> **debug**  
(config-dnspx)> **no debug**

**Example** (config-dnspx)> **debug**  
(config-dnspx)> **no debug**

**History**

| Version | Description                                             |
|---------|---------------------------------------------------------|
| 5.00    | The <b>dns-proxy debug</b> command has been introduced. |

### 3.17.2 dns-proxy filter assign host preset

**Description** Assign a filtering preset to a network device.

See the list of presets you can with help of [show dns-proxy filter presets](#) command.

Command with **no** prefix removes the defined preset for host. If you use no argument, the entire list of presets will be cleared for hosts.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** Yes

**Synopsis**

```
(config-dnspx)> filter assign host preset <host> <preset>
(config-dnspx)> no filter assign host preset [<host>]
```

**Arguments**

| Argument | Value              | Description                 |
|----------|--------------------|-----------------------------|
| host     | <i>MAC address</i> | Network device MAC address. |
| preset   | <i>String</i>      | Preset name.                |

**Example**

```
(config-dnspx)> filter assign host preset 04:d4:c1:51:b1:59 ►
opendns-family
Dns::Filter::Public: Associated host "04:d4:c1:51:b1:59" with ►
preset "opendns-family".
```

```
(config-dnspx)> no filter assign host preset 04:d4:c1:51:b1:59
Dns::Filter::Public: Removed preset for host "04:d4:c1:51:b1:59".
```

```
(config-dnspx)> no filter assign host preset
Dns::Filter::Public: Removed presets for hosts.
```

**History**

| Version | Description                                                                 |
|---------|-----------------------------------------------------------------------------|
| 3.08    | The <b>dns-proxy filter assign host preset</b> command has been introduced. |

### 3.17.3 dns-proxy filter assign host profile

**Description** Assign a filtering profile to a network device.

Add new profile you can with help of [dns-proxy filter profile](#) command.

See the list of profiles you can with help of [show dns-proxy filter profiles](#) command.

Command with **no** prefix removes the defined profile for host. If you use no argument, the entire list of profiles will be cleared for hosts.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** Yes

**Synopsis**

```
(config-dnspx)> filter assign host profile <host> <profile>
```

```
(config-dnspx)> no filter assign host profile [⟨host⟩]
```

**Arguments**

| Argument | Value              | Description                 |
|----------|--------------------|-----------------------------|
| host     | <i>MAC address</i> | Network device MAC address. |
| profile  | <i>String</i>      | Profile name.               |

**Example**

```
(config-dnspx)> filter assign host profile 00:d2:c1:54:bc:59 test
Dns::Filter::Public: Associated host "00:d2:c1:54:bc:59" with ►
profile "test".
```

```
(config-dnspx)> no filter assign host profile 00:d2:c1:54:bc:59
Dns::Filter::Public: Removed profile for host "00:d2:c1:54:bc:59".
```

```
(config-dnspx)> no filter assign host profile
Dns::Filter::Public: Removed profiles for hosts.
```

**History**

| Version | Description                                                                  |
|---------|------------------------------------------------------------------------------|
| 3.08    | The <b>dns-proxy filter assign host profile</b> command has been introduced. |

## 3.17.4 dns-proxy filter assign interface preset

**Description**

Assign a filtering preset to all devices on segment (exclude ones with already assigned profiles/presets).

See the list of presets you can with help of [show dns-proxy filter presets](#) command.

Command with **no** prefix removes the defined preset for interface. If you use no argument, the entire list of presets for interfaces will be cleared.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

Yes

**Synopsis**

```
(config-dnspx)> filter assign interface preset ⟨interface⟩ ⟨preset⟩
```

```
(config-dnspx)> no filter assign interface preset [⟨interface⟩]
```

**Arguments**

| Argument  | Value            | Description                                                              |
|-----------|------------------|--------------------------------------------------------------------------|
| interface | <i>Interface</i> | Network interface name. Must have a private or protected security level. |
| preset    | <i>String</i>    | Preset name.                                                             |

**Example**

```
(config-dnspx)> filter assign interface preset Bridge0 ►
quad9-security
Dns::Filter::Public: Associated interface "Bridge0" with preset ►
"quad9-security".
```

```
(config-dnspx)> no filter assign interface preset Bridge0
Dns::Filter::Public: Removed preset for interface "Bridge0".
```

```
(config-dnspx)> no filter assign interface preset
Dns::Filter::Public: Removed presets for interfaces.
```

**History**

| Version | Description                                                                      |
|---------|----------------------------------------------------------------------------------|
| 3.08    | The <b>dns-proxy filter assign interface preset</b> command has been introduced. |

## 3.17.5 dns-proxy filter assign interface profile

**Description**

Assign a filtering profile to all devices on segment (exclude ones with already assigned profiles/presets).

Add new profile you can with help of [dns-proxy filter profile](#) command.

See the list of profiles you can with help of [show dns-proxy filter profiles](#) command.

Command with **no** prefix removes the defined profile for interface. If you use no argument, the entire list of profiles for interfaces will be cleared.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

Yes

**Synopsis**

```
(config-dnspx)> filter assign interface profile <interface> <profile>
```

```
(config-dnspx)> no filter assign interface profile [ <interface> ]
```

**Arguments**

| Argument  | Value            | Description                                                              |
|-----------|------------------|--------------------------------------------------------------------------|
| interface | <i>Interface</i> | Network interface name. Must have a private or protected security level. |
| profile   | <i>String</i>    | Profile name.                                                            |

**Example**

```
(config-dnspx)> filter assign interface profile ►
GigabitEthernet0/Vlan1 DnsProfile0
Dns::Filter::Public: Associated interface ►
"GigabitEthernet0/Vlan1" with profile "DnsProfile0".
```

```
(config-dnspx)> no filter assign interface profile ►
GigabitEthernet0/Vlan1
```

```
Dns::Filter::Public: Removed profile for interface ►
"GigabitEthernet0/Vlan1".
```

```
(config-dnspx)> no filter assign interface profile
Dns::Filter::Public: Removed profiles for interfaces.
```

**History**

| Version | Description                                                                       |
|---------|-----------------------------------------------------------------------------------|
| 3.08    | The <b>dns-proxy filter assign interface profile</b> command has been introduced. |

## 3.17.6 dns-proxy filter engine

**Description**

Selects DNS engine.

Command with **no** prefix disables the feature. Config request will return empty value in case of disabled filter.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

No

**Synopsis**

```
(config-dnspx)> filter engine <engine>
```

```
(config-dnspx)> no filter engine
```

**Arguments**

| Argument | Value       | Description                             |
|----------|-------------|-----------------------------------------|
| engine   | interceptor | One of available DNS filtering engines. |
|          | public      |                                         |
|          | nextdns     |                                         |
|          | opkg        |                                         |
|          | skydns      |                                         |

**Example**

```
(config-dnspx)> filter engine interceptor
Dns::Filter::Interceptor: Enabled.
```

```
(config-dnspx)> no filter engine
Dns::Manager: Disabled filter engine.
```

**History**

| Version | Description                                                     |
|---------|-----------------------------------------------------------------|
| 3.08    | The <b>dns-proxy filter engine</b> command has been introduced. |



### 3.17.7 dns-proxy filter profile

**Description** Create a custom DNS filtering profile.  
Command with **no** prefix removes profile.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** Yes

**Synopsis**

```
(config-dnspx)> filter profile <name>
(config-dnspx)> no filter profile <name>
```

| Argument | Value         | Description                                                                                     |
|----------|---------------|-------------------------------------------------------------------------------------------------|
| name     | <i>String</i> | Profile name in reduced form, not more than 32 characters. The maximum number of profiles is 8. |

**Example**

```
(config-dnspx)> filter profile test
Dns::Filter::Public: Created profile "test".

(config-dnspx)> no filter profile test
Dns::Filter::Public: Removed profile "test".
```

| Version | Description                                                      |
|---------|------------------------------------------------------------------|
| 3.08    | The <b>dns-proxy filter profile</b> command has been introduced. |

### 3.17.8 dns-proxy filter profile description

**Description** Assign description for DNS filtering profile.  
Command with **no** prefix deletes the profile description.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Synopsis**

```
(config-dnspx)> filter profile <name>description <description>
(config-dnspx)> no filter profile <name>description <description>
```

**Arguments**

| Argument    | Value         | Description                           |
|-------------|---------------|---------------------------------------|
| name        | <i>String</i> | Profile name.                         |
| description | <i>String</i> | Arbitrary description of the profile. |

**Example**

```
(config-dnspx)> filter profile test description MyProfile1
Dns::Filter::Public: Set description to profile "test".
```

```
(config-dnspx)> no filter profile test description
Dns::Filter::Public: Cleared description of profile "test".
```

**History**

| Version | Description                                                                  |
|---------|------------------------------------------------------------------------------|
| 3.08    | The <b>dns-proxy filter profile description</b> command has been introduced. |

## 3.17.9 dns-proxy filter profile dns53 upstream

**Description**

Add IP address of the DNS server to user-defined filtering profile. Number of servers are limited to 6.

Command with **no** prefix removes the defined server from the list. If you use no argument, the entire list of servers will be cleared.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

Yes

**Synopsis**

```
(config-dnspx)> filter profile <name>dns53 upstream <address>[:<port>]
```

```
(config-dnspx)> no filter profile <name>dns53 description [ <address>[:<port>]]
```

**Arguments**

| Argument | Value             | Description               |
|----------|-------------------|---------------------------|
| name     | <i>String</i>     | Profile name.             |
| address  | <i>IP address</i> | IP address of the server. |
| port     | <i>Integer</i>    | The server port.          |

**Example**

```
(config-dnspx)> filter profile test dns53 upstream 1.1.1.1
Dns::Filter::Public: Added DNS name server 1.1.1.1 to profile ►
"test".
```

```
(config-dnspx)> no filter profile test dns53 upstream
Dns::Filter::Public: Removed DNS name server from profile "test".
```

```
(config-dnspx)> no filter profile test dns53 upstream 1.1.1.1
Dns::Filter::Public: Removed DNS name server 1.1.1.1 from profile ►
"test".
```

**History**

| Version | Description                                                                     |
|---------|---------------------------------------------------------------------------------|
| 3.08    | The <b>dns-proxy filter profile dns53 upstream</b> command has been introduced. |

## 3.17.10 dns-proxy filter profile https upstream

**Description**

Add [DNS over HTTPS](#) server to user-defined filtering profile. Number of servers are limited to 6.

Command with **no** prefix removes the defined server from the list. If you use no argument, the entire list of servers will be cleared.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

Yes

**Synopsis**

```
(config-dnspx)> filter profile <name>https upstream <url> [ spki <hash>
]
(config-dnspx)> no filter profile <name>https description [ <url> ]
```

**Arguments**

| Argument | Value         | Description           |
|----------|---------------|-----------------------|
| name     | <i>String</i> | Profile name.         |
| url      | <i>String</i> | URL of DNS service.   |
| hash     | <i>String</i> | Hash TLS certificate. |

**Example**

```
(config-dnspx)> filter profile test https upstream ►
https://dns.google/resolve
Dns::Filter::Public: Added DNS-over-HTTPS name server ►
https://dns.google/resolve to profile "test".
```

```
(config-dnspx)> no filter profile test https upstream ►
https://dns.google/resolve
Dns::Filter::Public: Removed DNS-over-HTTPS name server ►
https://dns.google/resolve from profile "test".
```

```
(config-dnspx)> no filter profile test https upstream
Dns::Filter::Public: Removed DNS-over-HTTPS name server from ►
profile "test".
```

**History**

| Version | Description                                                                     |
|---------|---------------------------------------------------------------------------------|
| 3.08    | The <b>dns-proxy filter profile https upstream</b> command has been introduced. |

### 3.17.11 dns-proxy filter profile intercept enable

**Description**

Enable transit DNS requests interception for filtering profile. By default, the interception is disabled.

Command with **no** prefix disables the interception for filtering profile.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

Yes

**Synopsis**

```
(config-dnspx)> filter profile <name>intercept enable
```

```
(config-dnspx)> no filter profile <name>intercept enable
```

**Arguments**

| Argument | Value         | Description             |
|----------|---------------|-------------------------|
| name     | <i>String</i> | Filtering profile name. |

**Example**

```
(config-dnspx)> filter profile DnsProfile0 intercept enable
Dns::Filter::Public: Enabled intercept in profile "DnsProfile0".
```

```
(config-dnspx)> no filter profile DnsProfile0 intercept enable
Dns::Filter::Public: Disabled intercept in profile "DnsProfile0".
```

**History**

| Version | Description                                                                       |
|---------|-----------------------------------------------------------------------------------|
| 3.09    | The <b>dns-proxy filter profile intercept enable</b> command has been introduced. |

### 3.17.12 dns-proxy filter profile tls upstream

**Description**

Add [DNS over TLS](#) server to user-defined filtering profile. Number of servers are limited to 6.

Command with **no** prefix removes the defined server from the list. If you use no argument, the entire list of servers will be cleared.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

Yes

**Synopsis**

```
(config-dnspx)> filter profile <name>tls upstream <address> [ <port> ] [ sni <fqdn> ] [ spki <hash> ]
```

```
(config-dnspx)> no filter profile <name>tls description [ <address> ] [ <port> ]
```

**Arguments**

| Argument | Value                            | Description            |
|----------|----------------------------------|------------------------|
| name     | <i>String</i>                    | Profile name.          |
| address  | <i>IP address</i><br><i>FQDN</i> | Address of the server. |
| port     | <i>Integer</i>                   | The server port.       |
| fqdn     | <i>String</i>                    | Full domain name.      |
| hash     | <i>String</i>                    | Hash TLS certificate.  |

**Example**

```
(config-dnspx)> filter profile test tls upstream 1.1.1.1 8853 ►
sni cloudflare-dns.com
Dns::Filter::Public: Added DNS-over-TLS name server 1.1.1.1 to ►
profile "test".
```

```
(config-dnspx)> no filter profile test tls upstream 1.1.1.1 8853
Dns::Filter::Public: Removed DNS-over-TLS name server 1.1.1.1 ►
from profile "test".
```

```
(config-dnspx)> no filter profile test tls upstream
Dns::Filter::Public: Removed DNS-over-TLS name server from ►
profile "test".
```

**History**

| Version | Description                                                                   |
|---------|-------------------------------------------------------------------------------|
| 3.08    | The <b>dns-proxy filter profile tls upstream</b> command has been introduced. |

## 3.17.13 dns-proxy https upstream

**Description**

Add [DNS over HTTPS](#) server.

Command with **no** prefix removes the defined server from the list. If you use no argument, the entire list of servers will be cleared.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

Yes

**Synopsis**

```
(config-dnspx)> https upstream <url> [ <format> ] [ sni <hash> ] [ on <interface> ] [ domain <domain> ]
```

```
(config-dnspx)> no https upstream [ <url> ]
```

### Arguments

| Argument  | Value            | Description                       |
|-----------|------------------|-----------------------------------|
| url       | <i>String</i>    | Custom URL of DNS service.        |
| format    | dnsm             | The format to represent DNS data. |
|           | json             |                                   |
| hash      | <i>String</i>    | Hash TLS certificate.             |
| interface | <i>Interface</i> | Interface name to configure.      |
| domain    | <i>String</i>    | The domain name.                  |

### Example

```
(config-dnspx)> https upstream ►
https://cloudflare-dns.com/dns-query?ct=application/dns-json json
Dns::Secure::ManagerDoh: DNS-over-HTTPS name server ►
"https://cloudflare-dns.com/dns-query?ct=application/dns-json" ►
(json) added.
```

```
(config-dnspx)> https upstream https://dns.adguard.com/dns-query ►
dnsm
Dns::Secure::ManagerDoh: DNS-over-HTTPS name server ►
"https://dns.adguard.com/dns-query" (dnsm) added.
```

```
(config-dnspx)> https upstream https://dns.adguard.com/dns-query ►
dnsm on ISP
Dns::Secure::ManagerDoh: DNS-over-HTTPS name server ►
"https://dns.adguard.com/dns-query" (dnsm) added.
```

```
(config-dnspx)> https upstream https://my.domain.com/dns-query ►
dnsm domain my.lib
Dns::Secure::ManagerDoh: DNS-over-HTTPS name server ►
"https://my.domain.com/dns-query" (dnsm) added.
```

```
(config-dnspx)> no https upstream ►
https://dns.adguard.com/dns-query
Dns::Secure::ManagerDoh: DNS-over-HTTPS name server ►
"https://dns.adguard.com/dns-query" deleted.
```

```
(config-dnspx)> no https upstream
Dns::Secure::ManagerDoh: DNS-over-HTTPS name servers cleared.
```

### History

| Version | Description                                                      |
|---------|------------------------------------------------------------------|
| 3.01    | The <b>dns-proxy https upstream</b> command has been introduced. |
| 3.08    | The domain argument was added.                                   |

### 3.17.14 dns-proxy intercept enable

**Description** Enable transit DNS requests interception for system profile. By default, the interception is disabled.

Command with **no** prefix disables the interception for system profile.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Synopsis**

```
(config-dnspj)> intercept enable
(config-dnspj)> no intercept enable
```

**Example**

```
(config-dnspj)> intercept enable
Dns::Filter::Filter: Enable intercept for system profile.
(config-dnspj)> no intercept enable
Dns::Filter::Filter: Disable intercept for system profile.
```

#### History

| Version | Description                                                            |
|---------|------------------------------------------------------------------------|
| 3.06    | The <b>dns-proxy intercept enable</b> command has been introduced.     |
| 3.08    | The <b>dns-proxy intercept enable</b> command was removed as obsolete. |
| 3.09    | The <b>dns-proxy intercept enable</b> command has been added again.    |

### 3.17.15 dns-proxy max-ttl

**Description** Set maximum TTL for DNS proxy cached entries.

Command with **no** prefix removes maximum TTL value.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Synopsis**

```
(config-dnspj)> max-ttl <max-ttl>
(config-dnspj)> no max-ttl
```

**Arguments**

| Argument | Value          | Description                                                                                       |
|----------|----------------|---------------------------------------------------------------------------------------------------|
| max-ttl  | <i>Integer</i> | The maximum value of TTL. Can take values in the range from 1 to 604800000 milliseconds (1 week). |

**Example**

```
(config-dnspj)> max-ttl 10000
Dns::Proxy: Dns-proxy set max-ttl to 10000.
```

```
(config-dnspj)> no max-ttl
Dns::Proxy: Dns-proxy max-ttl cleared.
```

**History**

| Version | Description                                               |
|---------|-----------------------------------------------------------|
| 2.05    | The <b>dns-proxy max-ttl</b> command has been introduced. |

## 3.17.16 dns-proxy proceed

**Description**

Set interval between concurrent requests, which is sent by DNS proxy to multiple DNS servers. By default, 500 value is used.

Command with **no** prefix resets proceed to default.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

No

**Synopsis**

```
(config-dnspj)> proceed <proceed>
```

```
(config-dnspj)> no proceed
```

**Arguments**

| Argument | Value          | Description                                                                                   |
|----------|----------------|-----------------------------------------------------------------------------------------------|
| proceed  | <i>Integer</i> | The value of DNS proxy proceed in milliseconds. Can take values in the range from 1 to 50000. |

**Example**

```
(config-dnspj)> proceed 600
Dns::Proxy: Dns-proxy set 600 msec. proceed.
```

```
(config-dnspj)> no proceed
Dns::Proxy: Dns-proxy proceed timeout reset.
```

**History**

| Version | Description                                               |
|---------|-----------------------------------------------------------|
| 2.04    | The <b>dns-proxy proceed</b> command has been introduced. |



### 3.17.17 dns-proxy rebind-protect

**Description** Enable protect against [DNS rebinding](#) attacks. By default, auto mode is used.

Command with **no** prefix disables protection.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Synopsis**

```
(config-dnspx)> rebind-protect (auto | strict)
(config-dnspx)> no rebind-protect
```

**Arguments**

| Argument | Value          | Description                                                                                                                                             |
|----------|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|
| auto     | <i>Keyword</i> | Block responses that point to IP addresses belonging to private network segments.                                                                       |
| strict   | <i>Keyword</i> | Block responses that point to IP addresses belonging to subnets listed in the <a href="#">IANA IPv4 Special-Purpose Address Registry</a> <sup>1</sup> . |

**Example**

```
(config-dnspx)> rebind-protect auto
Dns::Manager: Enabled rebind protection.
(config-dnspx)> no rebind-protect
Dns::Manager: Disabled rebind protection.
```

**History**

| Version | Description                                                      |
|---------|------------------------------------------------------------------|
| 3.04    | The <b>dns-proxy rebind-protect</b> command has been introduced. |

### 3.17.18 dns-proxy route object-group

**Description** Create DNS routing based on an FQDN object group with automatic name resolution.

Command with **no** prefix removes the DNS route for the specified interface. If you use no arguments, the entire list of routes will be cleared.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** Yes

**Synopsis**

<sup>1</sup> <https://www.iana.org/assignments/iana-ipv4-special-registry/iana-ipv4-special-registry.xhtml>

```
(config-dnspx)> route object-group <group> (( <gateway> [ <interface>
]) | <interface> ) [ auto ] [ reject ]
```

```
(config-dnspx)> no route [ object-group <group> ] [ <interface> ]
```

## Arguments

| Argument  | Value             | Description                                                                                                                                                                                                                                                                                      |
|-----------|-------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| group     | <i>String</i>     | The FQDN object group name.                                                                                                                                                                                                                                                                      |
| gateway   | <i>IP address</i> | IPv4 or IPv6 address of the router in a directly connected network. Can be specified along with the interface name, if it is required to specify <b>interface ip global</b> priority. If no interface is specified, the systemd determines it automatically based on the current IP settings.    |
| interface | <i>Interface</i>  | Interface full name or an alias.<br><br>If priority <b>interface ip global</b> is set on the interface, the route is added to the system table only if there is no other higher priority route with the same address.                                                                            |
| auto      | <i>Keyword</i>    | Allows you to apply the route when specified gateway becomes available.                                                                                                                                                                                                                          |
| reject    | <i>Keyword</i>    | Enable route to use only the selected interface for routing the traffic to the specified destination. If the specified interface is not active, the traffic is not sent via other possible routes. This option works only when using the auto option and cannot be applied to the default route. |

## Example

```
(config-dnspx)> route object-group domain-list0 Wireguard0
Dns::Route::Manager: "domain-list0": added DNS route.
```

```
(config-dnspx)> route object-group domain-list0 Wireguard0 auto
Dns::Route::Manager: "domain-list0": updated DNS route.
```

```
(config-dnspx)> route object-group domain-list0 10.1.111.12 >
Wireguard0 auto reject
Dns::Route::Manager: "domain-list0": updated DNS route.
```

```
(config-dnspx)> route object-group domain-list0 >
fe80::11a0:e7ff:fe5:6392 Wireguard0 auto reject
Dns::Route::Manager: "domain-list0": updated DNS route.
```

```
(config-dnspx)> route object-group domain-list0 Wireguard0 auto >
reject
Dns::Route::Manager: "domain-list0": updated DNS route.
```

```
(config-dnspx)> no route object-group domain-list0 Wireguard0
Dns::Route::Manager: Deleted DNS route to "domain-list0".
```

```
(config-dnspj)> no route
Dns::Route::Manager: Cleared all DNS routes.
```

**History**

| Version | Description                                                          |
|---------|----------------------------------------------------------------------|
| 5.00    | The <b>dns-proxy route object-group</b> command has been introduced. |

## 3.17.19 dns-proxy srr-reset

**Description** Set DNS proxy send-response rating reset time. By default, value 600000 is used.

Command with **no** prefix resets time reset to default.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Synopsis**

```
(config-dnspj)> srr-reset <srr-reset>
```

```
(config-dnspj)> no srr-reset
```

**Arguments**

| Argument  | Value          | Description                                                                             |
|-----------|----------------|-----------------------------------------------------------------------------------------|
| srr-reset | <i>Integer</i> | The value of time reset in milliseconds. Can take values in the range from 0 to 600000. |

**Example**

```
(config-dnspj)> srr-reset 111
Dns::Manager: Set send-response rating reset time to 111 ms.
```

```
(config-dnspj)> no srr-reset
Dns::Manager: Reset send-response rating reset time to default.
```

**History**

| Version | Description                                                 |
|---------|-------------------------------------------------------------|
| 2.12    | The <b>dns-proxy srr-reset</b> command has been introduced. |

## 3.17.20 dns-proxy tls upstream

**Description** Add [DNS over TLS](#) server.

Command with **no** prefix removes the defined server from the list. If you use no argument, the entire list of servers will be cleared.

**Prefix no** Yes

**Change settings** Yes

**Multiple input**

Yes

**Synopsis**

```
(config-dnspx)> tls upstream <address> [ <port> ] [ sni <fqdn> ] [ spki
<hash> ] [ on <interface> ] [ domain <domain> ]
```

```
(config-dnspx)> no tls upstream [ <address> ] [ <port> ]
```

**Arguments**

| Argument  | Value             | Description                  |
|-----------|-------------------|------------------------------|
| address   | <i>IP address</i> | IP address of the server.    |
| port      | <i>Integer</i>    | The server port.             |
| fqdn      | <i>String</i>     | Full domain name.            |
| hash      | <i>String</i>     | Hash TLS certificate.        |
| interface | <i>Interface</i>  | Interface name to configure. |
| domain    | <i>String</i>     | The domain name.             |

**Example**

```
(config-dnspx)> tls upstream 1.1.1.1 853 sni cloudflare-dns.com
Dns::Secure::ManagerDot: DNS-over-TLS name server 1.1.1.1:853 ►
added.
```

```
(config-dnspx)> tls upstream 1.1.1.1 853 sni cloudflare-dns.com ►
on ISP
Dns::Secure::ManagerDot: DNS-over-TLS name server 1.1.1.1:853 ►
added.
```

```
(config-dnspx)> tls upstream 144.144.144.143 853 sni ►
my.domain.com domain my.lib
Dns::Secure::ManagerDot: DNS-over-TLS name server ►
144.144.144.143:853 added.
```

```
(config-dnspx)> no tls upstream 1.1.1.1 853
Dns::Secure::ManagerDot: DNS-over-TLS name server 1.1.1.1:853 ►
deleted.
```

```
(config-dnspx)> no tls upstream
Dns::Secure::ManagerDot: DNS-over-TLS name servers cleared.
```

**History**

| Version | Description                                                    |
|---------|----------------------------------------------------------------|
| 3.01    | The <b>dns-proxy tls upstream</b> command has been introduced. |
| 3.08    | The domain argument was added.                                 |

## 3.18 dpn accept

**Description**

Accept user agreement [DPN](#). Until the license is accepted, the configurator does not accept any command except READ\_ONLY.

**Prefix no** No

**Change settings** No

**Multiple input** No

**Synopsis** `(config)> dpn accept`

**Example** `(config)> dpn accept`  
 Core::Legal: Accepted dpn version 20200330.

| History | Version | Description                                        |
|---------|---------|----------------------------------------------------|
|         | 3.05    | The <b>dpn accept</b> command has been introduced. |

## 3.19 dyndns profile

**Description** Access to a group of commands to configure DynDns profile. If the profile is not found, the command tries to create it. You can enter up to 32 profiles.

Command with **no** prefix removes DynDns profile.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** Yes

**Group entry** `(config-dyndns)`

**Synopsis** `(config)> dyndns profile <name>`  
`(config)> no dyndns profile <name>`

| Arguments | Argument | Value         | Description                                             |
|-----------|----------|---------------|---------------------------------------------------------|
|           | name     | <i>String</i> | The profile name. Maximum name length is 64 characters. |

**Example** `(config)> dyndns profile _WEBADMIN`  
 Core::Configurator: Done.  
`(config-dyndns)>`

| History | Version | Description                                            |
|---------|---------|--------------------------------------------------------|
|         | 2.00    | The <b>dyndns profile</b> command has been introduced. |

### 3.19.1 dyndns profile domain

**Description** Assign permanent domain name to the computer. You need to register this domain name on the site [dyndns.com](http://www.dyndns.com)<sup>2</sup> or [no-ip.com](http://www.no-ip.com)<sup>3</sup> before execution.

Command with **no** prefix removes the setting.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Synopsis**

```
(config-dyndns)> domain <domain>
(config-dyndns)> no domain
```

**Arguments**

| Argument | Value         | Description                                                    |
|----------|---------------|----------------------------------------------------------------|
| domain   | <i>String</i> | The domain name. Maximum domain name length is 254 characters. |

**Example**

```
(config-dyndns)> domain support.ddns.net
DynDns::Profile: "_WEBADMIN": domain saved..
```

```
(config-dyndns)> no domain
ynDns::Profile: "_WEBADMIN" domain cleared.
```

**History**

| Version | Description                                                   |
|---------|---------------------------------------------------------------|
| 2.00    | The <b>dyndns profile domain</b> command has been introduced. |

### 3.19.2 dyndns profile password

**Description** Set password for access via DynDns.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Synopsis**

```
(config-dyndns)> password <password>
(config-dyndns)> no password
```

<sup>2</sup> <http://www.dyndns.com>

<sup>3</sup> <http://www.no-ip.com>

| <b>Arguments</b> | Argument | Value         | Description                                                                |
|------------------|----------|---------------|----------------------------------------------------------------------------|
|                  | password | <i>String</i> | The password for authentication. Maximum password length is 64 characters. |

**Example**

```
(config-dyndns)> password 123456789
DynDns::Profile: "_WEBADMIN": password saved.
```

```
(config-dyndns)> no password
DynDns::Profile: "_WEBADMIN" password cleared.
```

**History**

| Version | Description                                                     |
|---------|-----------------------------------------------------------------|
| 2.00    | The <b>dyndns profile password</b> command has been introduced. |

### 3.19.3 dyndns profile send-address

**Description** Enable the necessity of connection IP address indication in DynDns request.  
Command with **no** prefix removes the setting.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Synopsis**

```
(config-dyndns)> send-address
```

```
(config-dyndns)> no send-address
```

**Example**

```
(config-dyndns)> send-address
DynDns::Profile: Send address is enabled.
```

```
(config-dyndns)> no send-address
DynDns::Profile: Send address is disabled.
```

**History**

| Version | Description                                                         |
|---------|---------------------------------------------------------------------|
| 2.03    | The <b>dyndns profile send-address</b> command has been introduced. |

### 3.19.4 dyndns profile type

**Description** Set DynDns type depending on the site where the domain name was registered.

Command with **no** prefix removes the setting.

**Prefix no** Yes**Change settings** Yes**Multiple input** No

**Synopsis**

```
(config-dyndns)> type <type>
```

```
(config-dyndns)> no type
```

**Arguments**

| Argument | Value      | Description                                                                                                    |
|----------|------------|----------------------------------------------------------------------------------------------------------------|
| type     | dyndns     | The domain name is registered on the <a href="https://account.dyn.com">account.dyn.com</a> <sup>4</sup> site.  |
|          | noip       | The domain name is registered on the <a href="https://www.noip.com">noip.com</a> <sup>5</sup> site.            |
|          | opendns    | The domain name is registered on the <a href="https://www.opendns.com">opendns.com</a> <sup>6</sup> site.      |
|          | dnsomatic  | The domain name is registered on the <a href="https://dnsomatic.com">dnsomatic.com</a> <sup>7</sup> site.      |
|          | anydns     | The domain name is registered on the <a href="https://www.anydns.info">anydns.info</a> <sup>8</sup> site.      |
|          | dnshome    | The domain name is registered on the <a href="https://www.dnshome.de">dnshome.de</a> <sup>9</sup> site.        |
|          | duckdns    | The domain name is registered on the <a href="https://www.duckdns.org">duckdns.org</a> <sup>10</sup> site.     |
|          | dyndnsfree | The domain name is registered on the <a href="https://www.dyndnsfree.de">dyndnsfree.de</a> <sup>11</sup> site. |
|          | desec      | The domain name is registered on the <a href="https://desec.io">desec.io</a> <sup>12</sup> site.               |
|          | custom     | The domain name is registered on the other site (defined with <a href="#">dyndns profile url</a> command).     |

**Example**

```
(config-dyndns)> type noip
DynDns::Profile: "_WEBADMIN": type saved.
```

```
(config-dyndns)> no type
DynDns::Profile: "_WEBADMIN": type cleared.
```

<sup>4</sup> <https://account.dyn.com><sup>5</sup> <https://www.noip.com><sup>6</sup> <https://www.opendns.com><sup>7</sup> <https://dnsomatic.com><sup>8</sup> <https://www.anydns.info><sup>9</sup> <https://www.dnshome.de><sup>10</sup> <https://www.duckdns.org><sup>11</sup> <https://www.dyndnsfree.de><sup>12</sup> <https://desec.io>



| History | Version | Description                                                 |
|---------|---------|-------------------------------------------------------------|
|         | 2.00    | The <b>dyndns profile type</b> command has been introduced. |

### 3.19.5 dyndns profile update-interval

**Description** Set the address update interval for DynDns.  
Command with **no** prefix cancels the ability to update.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Synopsis**

```
(config-dyndns)> update-interval <days> days [ <hours> hours ]
[ <minutes> minutes ] [ <seconds> seconds ]

(config-dyndns)> no update-interval
```

| Arguments | Argument | Value          | Description               |
|-----------|----------|----------------|---------------------------|
|           | days     | <i>Integer</i> | Interval time in days.    |
|           | hours    | <i>Integer</i> | Interval time in hours.   |
|           | minutes  | <i>Integer</i> | Interval time in minutes. |
|           | seconds  | <i>Integer</i> | Interval time in seconds. |

**Example**

```
(config-dyndns)> update-interval 5 days 5 hours 5 minutes 5 seconds
DynDns::Profile: Interval is set to 450305 seconds.

(config-dyndns)> update-interval 5 days
DynDns::Profile: Interval is set to 432000 seconds.

(config-dyndns)> no update-interval
DynDns::Profile: Periodic registration disabled.
```

| History | Version | Description                                                            |
|---------|---------|------------------------------------------------------------------------|
|         | 2.03    | The <b>dyndns profile update-interval</b> command has been introduced. |

### 3.19.6 dyndns profile url

**Description** Set dynamic DNS service custom URL.

**Prefix no** Yes

**Change settings** Yes**Multiple input** No

**Synopsis**

```
(config-dyndns)> url <url>
```

```
(config-dyndns)> no url
```

**Arguments**

| Argument | Value         | Description                |
|----------|---------------|----------------------------|
| url      | <i>String</i> | Custom URL of DNS service. |

**Example**

```
(config-dyndns)> url http://members.dyndns.org/nic/update
DynDns::Profile: "_WEBADMIN": URL saved.
```

```
(config-dyndns)> no url
DynDns::Profile: "_WEBADMIN" URL cleared.
```

**History**

| Version | Description                                                |
|---------|------------------------------------------------------------|
| 2.05    | The <b>dyndns profile url</b> command has been introduced. |

### 3.19.7 dyndns profile username

**Description** Set username for access via DynDns.**Prefix no** Yes**Change settings** Yes**Multiple input** No

**Synopsis**

```
(config-dyndns)> username <username>
```

```
(config-dyndns)> no username
```

**Arguments**

| Argument | Value         | Description                                                        |
|----------|---------------|--------------------------------------------------------------------|
| username | <i>String</i> | Username for authentication. Maximum name length is 64 characters. |

**Example**

```
(config-dyndns)> username test@gmail.com
DynDns::Profile: "_WEBADMIN": username saved.
```

```
(config-dyndns)> no username
DynDns::Profile: "_WEBADMIN" username cleared.
```

**History**

| Version | Description                                                     |
|---------|-----------------------------------------------------------------|
| 2.00    | The <b>dyndns profile username</b> command has been introduced. |

## 3.20 easyconfig check

**Description**

Access to a group of commands to configure Internet access check. To check Internet access, first requests to the default gateway are sent. If the answer is received, then the remote hosts specified in the settings are polled. The duration and frequency of requests are also specified in the settings. If all the checks have been passed, then the Internet access is provided.

**Prefix no**

No

**Change settings**

No

**Multiple input**

No

**Group entry**

(ezconfig-check)

**Synopsis**(config)> **easyconfig check****Example**

```
(config)> easyconfig check
(ezconfig-check)>
```

**History**

| Version | Description                                              |
|---------|----------------------------------------------------------|
| 2.00    | The <b>easyconfig check</b> command has been introduced. |

### 3.20.1 easyconfig check exclude-gateway

**Description**

Disable default gateway check. By default, the setting is enabled.

Command with **no** prefix enables the check back.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

No

**Synopsis**

```
(ezconfig-check)> exclude-gateway
```

```
(ezconfig-check)> no exclude-gateway
```

**Example**

```
(ezconfig-check)> exclude-gateway
Network::InternetChecker: Gateway checking disabled.
```

```
(ezconfig-check)> no exclude-gateway
Network::InternetChecker: Gateway checking enabled.
```

**History**

| Version | Description                                                              |
|---------|--------------------------------------------------------------------------|
| 2.05    | The <b>easyconfig check exclude-gateway</b> command has been introduced. |

## 3.20.2 easyconfig check max-fails

**Description**

Specify the number of consecutive failed requests to the cloud service to conclude that the internet is unavailable. By default, value 3 is used.

Command with **no** prefix resets setting to default.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

No

**Synopsis**

```
(ezconfig-check)> max-fails <count>
```

```
(ezconfig-check)> no max-fails
```

**Arguments**

| Argument | Value          | Description                                                                      |
|----------|----------------|----------------------------------------------------------------------------------|
| count    | <i>Integer</i> | Amount of failed requests. Can take values in the range from 2 to 8 inclusively. |

**Example**

```
(ezconfig-check)> max-fails 5
```

```
Network::InternetChecker: A new maximum fail count set to 5.
```

```
(ezconfig-check)> no max-fails
```

```
Network::InternetChecker: The maximum fail count reset to the ►  
default value (3).
```

**History**

| Version | Description                                                        |
|---------|--------------------------------------------------------------------|
| 2.00    | The <b>easyconfig check max-fails</b> command has been introduced. |

## 3.20.3 easyconfig check period

**Description**

Set a period of checking. By default, the value 15 is used.

Command with **no** prefix resets setting to default.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

No

**Synopsis**

```
(ezconfig-check)> period <period>
```

```
(ezconfig-check)> no period
```

**Arguments**

| Argument | Value          | Description                                                                        |
|----------|----------------|------------------------------------------------------------------------------------|
| period   | <i>Integer</i> | Check interval in seconds. Can take values in the range from 10 to 60 inclusively. |

**Example**

```
(ezconfig-check)> period 20  
Network::InternetChecker: A new check period set to 20 seconds.
```

```
(ezconfig-check)> no period  
Network::InternetChecker: Check period reset to default (15 ►  
seconds).
```

**History**

| Version | Description                                                     |
|---------|-----------------------------------------------------------------|
| 2.00    | The <b>easyconfig check period</b> command has been introduced. |

## 3.21 easyconfig disable

**Description**

Disable initial setup wizard. By default, the setting is enabled.

Command with **no** prefix enables initial setup wizard.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

No

**Synopsis**

```
(config)> easyconfig disable
```

```
(config)> no easyconfig disable
```

**Example**

```
(config)> easyconfig disable  
EasyConfig::Manager: Disabled.
```

```
(config)> no easyconfig disable  
EasyConfig::Manager: Enabled.
```

**History**

| Version | Description                                                |
|---------|------------------------------------------------------------|
| 3.01    | The <b>easyconfig disable</b> command has been introduced. |

## 3.22 eula accept

**Description** Accept user agreement [EULA](#). Until the license is accepted, the configurator does not accept any command except READ\_ONLY.

**Prefix no** No

**Change settings** No

**Multiple input** No

**Synopsis** (config)> **eula accept**

**Example** (config)> **eula accept**  
Core::Eula: "20181001" license accepted.

**History**

| Version | Description                                         |
|---------|-----------------------------------------------------|
| 2.15    | The <b>eula accept</b> command has been introduced. |

## 3.23 igmp-proxy

**Description** Access to a group of commands to configure [IGMP](#).

**Prefix no** No

**Change settings** No

**Multiple input** No

**Group entry** (igmp-proxy)

**Synopsis** (config)> **igmp-proxy**

**Example** (config)> **igmp-proxy**  
(igmp-proxy)>

**History**

| Version | Description                                        |
|---------|----------------------------------------------------|
| 2.06    | The <b>igmp-proxy</b> command has been introduced. |

### 3.23.1 igmp-proxy fast-leave

**Description** Enable the [IGMP](#) fast-leave to immediately remove a port from the forwarding entry for a multicast group when the port receives a leave message.

Command with **no** prefix disables the feature.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Synopsis**

```
(igmp-proxy)> fast-leave
(igmp-proxy)> no fast-leave
```

**Example**

```
(igmp-proxy)> fast-leave
Igmpp::Proxy: Enabled Fast Leave.

(igmp-proxy)> no fast-leave
Igmpp::Proxy: Disabled Fast Leave.
```

**History**

| Version | Description                                                   |
|---------|---------------------------------------------------------------|
| 3.09    | The <b>igmp-proxy fast-leave</b> command has been introduced. |

## 3.23.2 igmp-proxy force

**Description** Force old version of *IGMP*. By default, the setting is disabled and the protocol version is selected in automatic mode.

Command with **no** prefix resets setting to default.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Synopsis**

```
(igmp-proxy)> force <protocol>
(igmp-proxy)> no force
```

**Arguments**

| Argument | Value   | Description                          |
|----------|---------|--------------------------------------|
| protocol | igmp-v1 | Apply filtering to incoming packets. |
|          | igmp-v2 | Apply filtering to outgoing packets. |

**Example**

```
(igmp-proxy)> force igmp-v1
Igmpp::Proxy: Forced protocol: igmp-v1.

(igmp-proxy)> no force
Igmpp::Proxy: Enabled IGMP auto-detect.
```

**History**

| Version | Description                                              |
|---------|----------------------------------------------------------|
| 2.08    | The <b>igmp-proxy force</b> command has been introduced. |

## 3.24 igmp-snooping disable

**Description** Disable IGMP snooping. Command is available in Client, Repeater or AP modes only.

Command with **no** prefix enables IGMP snooping.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Synopsis** (config)> **igmp-snooping disable**

**Example** (config)> **igmp-snooping disable**  
Igmp::Snooping: Disabled.

(config)> **no igmp-snooping disable**  
Igmp::Snooping: Enabled.

**History**

| Version | Description                                                   |
|---------|---------------------------------------------------------------|
| 2.12    | The <b>igmp-snooping disable</b> command has been introduced. |

## 3.25 interface

**Description** Access to a group of commands to configure the selected interface. If the interface is not found, the command tries to create it.

The interface name specifies its class that inherits certain properties, see the diagrams in the [Appendix](#). The commands work in relation to classes. The corresponding interface class is specified in the command description.

Command with **no** prefix deletes the interface.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** Yes

**Group entry** (config-if)

**Synopsis** (config)> **interface** <name>



```
(config)> no interface <name>
```

### Arguments

| Argument | Value            | Description                                                                                                                |
|----------|------------------|----------------------------------------------------------------------------------------------------------------------------|
| name     | <i>Interface</i> | Full interface name or an alias. You can see the list of available interfaces with help of <b>interface</b> [Tab] command. |

### Example

```
(config)> interface [Tab]
```

Usage template:

```
interface {name}
```

Choose:

```

Pvc
Vlan
CdcEthernet
UsbModem
RealtekEthernet
AsixEthernet
Davicom
UsbQmi
UsbLte
Yota
Bridge
PPPoE
SSTPEthernet
SSTP
PPTP
L2TP
ZeroTier
Wireguard
Proxy
OpenVPN
IPIP
XFRM
TunnelSixInFour
IKE
Gre
EoIP
Clat
MapT
DsLite
TunnelFourInSix
Chilli
```

### History

| Version | Description                                       |
|---------|---------------------------------------------------|
| 2.00    | The <b>interface</b> command has been introduced. |

### 3.25.1 interface authentication chap

| <b>Description</b>     | Enable <i>CHAP</i> authentication support.<br><br>Command with <b>no</b> prefix disables <i>CHAP</i> .                                                                                                                                                                                          |         |             |      |                                                                       |
|------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|-------------|------|-----------------------------------------------------------------------|
| <b>Prefix no</b>       | Yes                                                                                                                                                                                                                                                                                             |         |             |      |                                                                       |
| <b>Change settings</b> | Yes                                                                                                                                                                                                                                                                                             |         |             |      |                                                                       |
| <b>Multiple input</b>  | No                                                                                                                                                                                                                                                                                              |         |             |      |                                                                       |
| <b>Interface type</b>  | Secure                                                                                                                                                                                                                                                                                          |         |             |      |                                                                       |
| <b>Synopsis</b>        | <pre>(config-if)&gt; authentication chap</pre> <pre>(config-if)&gt; no authentication chap</pre>                                                                                                                                                                                                |         |             |      |                                                                       |
| <b>Example</b>         | <pre>(config-if)&gt; authentication chap</pre> <pre>Network::Interface::Supplicant: "PPTP0": added authentication: ►</pre> <pre>CHAP.</pre><br><pre>(config-if)&gt; no authentication chap</pre> <pre>Network::Interface::Supplicant: "PPTP0": removed authentication: ►</pre> <pre>CHAP.</pre> |         |             |      |                                                                       |
| <b>History</b>         | <table><tr><th>Version</th><th>Description</th></tr><tr><td>2.00</td><td>The <b>interface authentication chap</b> command has been introduced.</td></tr></table>                                                                                                                                | Version | Description | 2.00 | The <b>interface authentication chap</b> command has been introduced. |
| Version                | Description                                                                                                                                                                                                                                                                                     |         |             |      |                                                                       |
| 2.00                   | The <b>interface authentication chap</b> command has been introduced.                                                                                                                                                                                                                           |         |             |      |                                                                       |

### 3.25.2 interface authentication eap-md5

|                        |                                                                                                                                                                 |
|------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Description</b>     | Enable EAP-MD5 authentication support.<br><br>Command with <b>no</b> prefix disables EAP-MD5.                                                                   |
| <b>Prefix no</b>       | Yes                                                                                                                                                             |
| <b>Change settings</b> | Yes                                                                                                                                                             |
| <b>Multiple input</b>  | No                                                                                                                                                              |
| <b>Interface type</b>  | Secure                                                                                                                                                          |
| <b>Synopsis</b>        | <pre>(config-if)&gt; authentication eap-md5</pre> <pre>(config-if)&gt; no authentication eap-md5</pre>                                                          |
| <b>Example</b>         | <pre>(config-if)&gt; authentication eap-md5</pre> <pre>Network::Interface::Ethernet: "GigabitEthernet1": configured ►</pre> <pre>authentication: EAP-MD5.</pre> |

```
(config-if)> no authentication eap-md5
Network::Interface::Supplicant: "GigabitEthernet1": removed ►
authentication: EAP-MD5.
```

**History**

| Version | Description                                                              |
|---------|--------------------------------------------------------------------------|
| 2.00    | The <b>interface authentication eap-md5</b> command has been introduced. |

### 3.25.3 interface authentication eap-mschapv2

**Description**

Enable EAP-MSCHAPv2 authentication support.

Command with **no** prefix disables EAP-MSCHAPv2, MS-CHAPv2.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

No

**Interface type**

Secure

**Synopsis**

```
(config-if)> authentication eap-mschapv2
```

```
(config-if)> no authentication eap-mschapv2
```

**Example**

```
(config-if)> authentication eap-mschapv2
Network::Interface::Supplicant: "IKE0": authentication is ►
unchanged.
```

```
(config-if)> no authentication eap-mschapv2
Network::Interface::Supplicant: "IKE0": removed authentication: ►
EAP-MSCHAPv2, MS-CHAPv2.
```

**History**

| Version | Description                                                                   |
|---------|-------------------------------------------------------------------------------|
| 3.05    | The <b>interface authentication eap-mschapv2</b> command has been introduced. |

### 3.25.4 interface authentication eap-ttls

**Description**

Enable EAP-TTLS authentication support.

Command with **no** prefix disables EAP-TTLS.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

No

**Interface type** Secure

**Synopsis**

```
(config-if)> authentication eap-ttls
(config-if)> no authentication eap-ttls
```

**Example**

```
(config-if)> authentication eap-ttls
Network::Interface::Ethernet: "GigabitEthernet1": configured ►
authentication: EAP-TTLS.

(config-if)> no authentication eap-ttls
Network::Interface::Supplicant: "GigabitEthernet1": removed ►
authentication: EAP-TTLS.
```

**History**

| Version | Description                                                               |
|---------|---------------------------------------------------------------------------|
| 2.00    | The <b>interface authentication eap-ttls</b> command has been introduced. |

## 3.25.5 interface authentication identity

**Description** Specify user name for device authentication on the remote system. Equally often used on PPTP, PPPoE, L2TP and Proxy connections.

Command with **no** prefix deletes the previously specified user name.

**Prefix no** Yes**Change settings** Yes**Multiple input** No**Interface type** Secure

**Synopsis**

```
(config-if)> authentication identity <identity>
(config-if)> no authentication identity
```

**Arguments**

| Argument | Value         | Description                   |
|----------|---------------|-------------------------------|
| identity | <i>String</i> | User name for authentication. |

**Example**

```
(config-if)> authentication identity mylogin
Network::Interface::Supplicant: "PPTP0": identity saved.

(config-if)> no authentication identity
Network::Interface::Supplicant: "PPTP0": identity cleared.
```

| History | Version | Description                                                               |
|---------|---------|---------------------------------------------------------------------------|
|         | 2.00    | The <b>interface authentication identity</b> command has been introduced. |

### 3.25.6 interface authentication mschap

**Description** Enable MS-CHAP authentication support.  
Command with **no** prefix disables MS-CHAP.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Interface type** Secure

**Synopsis**

```
(config-if)> authentication mschap
(config-if)> no authentication mschap
```

**Example**

```
(config-if)> authentication mschap
Network::Interface::Supplicant: "PPTP0": added authentication: ►
MS-CHAP.

(config-if)> no authentication mschap
Network::Interface::Supplicant: "PPTP0": removed authentication: ►
MS-CHAP.
```

| History | Version | Description                                                             |
|---------|---------|-------------------------------------------------------------------------|
|         | 2.00    | The <b>interface authentication mschap</b> command has been introduced. |

### 3.25.7 interface authentication mschap-v2

**Description** Enable MS-CHAPv2 authentication support.  
Command with **no** prefix disables MS-CHAPv2.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Interface type** Secure

**Synopsis**

```
(config-if)> authentication mschap-v2
```

```
(config-if)> no authentication mschap-v2
```

**Example**

```
(config-if)> authentication mschap-v2
Network::Interface::Supplicant: "PPTP0": authentication is ►
unchanged.
```

```
(config-if)> no authentication mschap-v2
Network::Interface::Supplicant: "PPTP0": removed authentication: ►
MS-CHAPv2.
```

**History**

| Version | Description                                                                |
|---------|----------------------------------------------------------------------------|
| 2.00    | The <b>interface authentication mschap-v2</b> command has been introduced. |

## 3.25.8 interface authentication pap

**Description**

Enable [PAP](#) authentication support.

Command with **no** prefix disables [PAP](#).

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

No

**Interface type**

Secure

**Synopsis**

```
(config-if)> authentication pap
```

```
(config-if)> no authentication pap
```

**Example**

```
(config-if)> authentication pap
Network::Interface::Supplicant: "PPTP0": added authentication: ►
PAP.
```

```
(config-if)> no authentication pap
Network::Interface::Supplicant: "PPTP0": removed authentication: ►
PAP.
```

**History**

| Version | Description                                                          |
|---------|----------------------------------------------------------------------|
| 2.00    | The <b>interface authentication pap</b> command has been introduced. |

## 3.25.9 interface authentication password

**Description** Specify password for device authentication on the remote system. Equally often used on PPTP, PPPoE, L2TP and Proxy connections.

Command with **no** prefix deletes the password.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Interface type** Secure

**Synopsis**

```
(config-if)> authentication password <password>
(config-if)> no authentication password
```

**Arguments**

| Argument | Value         | Description                  |
|----------|---------------|------------------------------|
| password | <i>String</i> | Password for authentication. |

**Example**

```
(config-if)> authentication password Aihoi2cha1
Network::Interface::Supplicant: "PPTP0": password saved.
```

```
(config-if)> no authentication password
Network::Interface::Supplicant: "PPTP0": password cleared.
```

**History**

| Version | Description                                                               |
|---------|---------------------------------------------------------------------------|
| 2.00    | The <b>interface authentication password</b> command has been introduced. |

## 3.25.10 interface authentication peap

**Description** Enable [EAP-PEAP](#) authentication support.

Command with **no** prefix disables [EAP-PEAP](#).

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Interface type** Secure

**Synopsis**

```
(config-if)> authentication peap
(config-if)> no authentication peap
```

**Example**

```
(config-if)> authentication peap
Network::Interface::Ethernet: "WifiMaster1/AccessPoint0": ►
configured authentication: PEAP.
```

```
(config-if)> no authentication peap
Network::Interface::Supplicant: "WifiMaster1/AccessPoint0": ►
removed authentication: PEAP.
```

**History**

| Version | Description                                                           |
|---------|-----------------------------------------------------------------------|
| 2.03    | The <b>interface authentication peap</b> command has been introduced. |

## 3.25.11 interface authentication shared

**Description**

Enable authentication with a *shared key*. This mode is used only in conjunction with *WEP* encryption. *Shared keys* are specified by **interface encryption key** command.

Command with **no** prefix turns authentication to open mode.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

No

**Interface type**

WiFi

**Synopsis**

```
(config-if)> authentication shared
```

```
(config-if)> no authentication shared
```

**Example**

```
(config-if)> authentication shared
Network::Interface::Rtx::AccessPoint: "WifiMaster1/AccessPoint0": ►
shared authentication mode enabled.
```

```
(config-if)> no authentication shared
Network::Interface::Rtx::AccessPoint: "WifiMaster1/AccessPoint0": ►
shared authentication mode disabled.
```

**History**

| Version | Description                                                             |
|---------|-------------------------------------------------------------------------|
| 2.00    | The <b>interface authentication shared</b> command has been introduced. |

## 3.25.12 interface authentication wpa-psk

**Description**

Specify the pre-agreed key for authentication via WPA-PSK protocol. It is possible to specify the key as a 256-bit hexadecimal number or as a string of



ASCII-characters. In the second case, the string is used as a code phrase to generate the key (passphrase).

Command with **no** prefix removes setting.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Interface type** WiFi

**Synopsis**

```
(config-if)> authentication wpa-psk <psk>
(config-if)> no authentication wpa-psk
```

**Arguments**

| Argument | Value         | Description                                                                                                                                                       |
|----------|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| psk      | <i>String</i> | Pre-agreed key in the form of a 256-bit hexadecimal number, which consists of 64 hexadecimal digits, or in the form of ASCII string of 8 to 63 characters length. |

**Example**

```
(config-if)> authentication wpa-psk Eethaich9z
Network::Interface::Wifi: "WifiMaster1/AccessPoint0": WPA PSK set.
```

```
(config-if)> no authentication wpa-psk
Network::Interface::Wifi: "WifiMaster1/AccessPoint0": WPA PSK ►
removed.
```

**History**

| Version | Description                                                              |
|---------|--------------------------------------------------------------------------|
| 2.00    | The <b>interface authentication wpa-psk</b> command has been introduced. |

### 3.25.13 interface auto-ssid

**Description** Generate a custom wireless network name (SSID) based on the router's MAC address.

**Prefix no** No

**Change settings** Yes

**Multiple input** No

**Interface type** WifiMaster

**Synopsis**

```
(config-if)> auto-ssid <template> <prefix>
```

**Arguments**

| Argument | Value         | Description                                                                          |
|----------|---------------|--------------------------------------------------------------------------------------|
| template | mac4          | Template name — the last 4 or 6 digits of the MAC address to be added to the prefix. |
|          | mac6          |                                                                                      |
| prefix   | <i>String</i> | Custom string at the user's choice.                                                  |

**Example**

```
(config-if)> auto-ssid mac4 12313213
Network::Interface::AccessPoint: "WifiMaster0/AccessPoint0": ►
generated SSID "12313213207E".
```

```
(config-if)> auto-ssid mac6 12313213
Network::Interface::AccessPoint: "WifiMaster0/AccessPoint0": ►
generated SSID "1231321369207E".
```

**History**

| Version | Description                                                 |
|---------|-------------------------------------------------------------|
| 3.08    | The <b>interface auto-ssid</b> command has been introduced. |

## 3.25.14 interface backhaul

**Description**

Enable support of [VLAN](#) for wireless connection between routers Keenetic in the trunk mode. By default, setting is disabled.

Command with **no** prefix disables the setting.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

No

**Interface type**

WiFiMaster

**Synopsis**

```
(config-if)> backhaul
```

```
(config-if)> no backhaul
```

**Example**

```
(config-if)> backhaul
Network::Interface::Rtx::AccessPoint: "WifiMaster0/AccessPoint1": ►
backhaul mode enabled.
```

```
(config-if)> no backhaul
Network::Interface::Rtx::AccessPoint: "WifiMaster0/AccessPoint1": ►
backhaul mode disabled.
```

**History**

| Version | Description                                                |
|---------|------------------------------------------------------------|
| 3.02    | The <b>interface backhaul</b> command has been introduced. |

## 3.25.15 interface band-steering

**Description** Enable *Band Steering* for AP 5 GHz. By default, the setting is enabled.

For correct *Band Steering* operation it is necessary to fulfill the following conditions:

- access points 2,4 GHz and 5 GHz are enabled both
- they have the same SSID's
- they have the same security settings (encryption type, key value, etc.)

Command with **no** prefix disables the *Band Steering*.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Interface type** WiFiMaster

**Synopsis**

```
(config-if)> band-steering
(config-if)> no band-steering
```

**Example**

```
(config-if)> band-steering
Network::Interface::Rtx::WifiMaster: "WifiMaster1": band steering ►
enabled.

(config-if)> no band-steering
Network::Interface::Rtx::WifiMaster: "WifiMaster1": band steering ►
disabled.
```

**History**

| Version | Description                                                     |
|---------|-----------------------------------------------------------------|
| 2.09    | The <b>interface band-steering</b> command has been introduced. |

## 3.25.16 interface band-steering preference

**Description** Set the band to give a preference in *Band Steering* technology. By default, the value is not defined.

Command with **no** prefix resets setting to default.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Interface type** WiFiMaster

**Synopsis**

```
(config-if)> band-steering preference <band>
(config-if)> no band-steering preference
```

**Arguments**

| Argument | Value | Description   |
|----------|-------|---------------|
| band     | 2     | 2,4 GHz band. |
|          | 5     | 5 GHz band.   |

**Example**

```
(config-if)> band-steering preference 5
Network::Interface::Rtx::WifiMaster: "WifiMaster1": band steering ►
preference is 5 GHz.
```

```
(config-if)> no band-steering preference
Network::Interface::Rtx::WifiMaster: "WifiMaster1": band steering ►
preference disabled.
```

**History**

| Version | Description                                                                |
|---------|----------------------------------------------------------------------------|
| 2.09    | The <b>interface band-steering preference</b> command has been introduced. |

## 3.25.17 interface beamforming explicit

**Description** Enable explicit [Beamforming](#) (eBF) for AP 5 GHz. The feature can be used for 802.11ac clients only and is incompatible with other standards. By default, the setting is enabled.

Command with **no** prefix disables the explicit [Beamforming](#).

**Prefix no** Yes**Change settings** Yes**Multiple input** No**Interface type** WiFiMaster

**Synopsis**

```
(config-if)> beamforming explicit [mu-mimo]
(config-if)> no beamforming explicit
```

**Arguments**

| Argument | Value          | Description                                                                                     |
|----------|----------------|-------------------------------------------------------------------------------------------------|
| mu-mimo  | <i>Keyword</i> | Control MU-MIMO flags for explicit Beamforming. Enable control of data flow for multiple users. |

**Example**

```
(config-if)> beamforming explicit
Network::Interface::Rtx::WifiMaster: "WifiMaster1": explicit ►
beamforming and SU-MIMO enabled.
```

```
(config-if)> beamforming explicit mu-mimo
Network::Interface::Rtx::WifiMaster: "WifiMaster1": explicit ►
beamforming and MU-MIMO enabled.
```

```
(config-if)> no beamforming explicit
Network::Interface::Rtx::WifiMaster: "WifiMaster1": explicit ►
beamforming and MIMO disabled.
```

**History**

| Version | Description                                                            |
|---------|------------------------------------------------------------------------|
| 2.10    | The <b>interface beamforming explicit</b> command has been introduced. |

## 3.25.18 interface beamforming implicit

**Description**

Enable implicit *Beamforming* (iBF) for AP 5 GHz. By default, the setting is disabled.

Command with **no** prefix disables the implicit *Beamforming*.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

No

**Interface type**

WiFiMaster

**Synopsis**

```
(config-if)> beamforming implicit
```

```
(config-if)> no beamforming implicit
```

**Example**

```
(config-if)> beamforming implicit
Network::Interface::Rtx::WifiMaster: "WifiMaster1": implicit ►
beamforming enabled.
```

```
(config-if)> no beamforming implicit
Network::Interface::Rtx::WifiMaster: "WifiMaster1": implicit ►
beamforming disabled.
```

**History**

| Version | Description                                                            |
|---------|------------------------------------------------------------------------|
| 2.10    | The <b>interface beamforming implicit</b> command has been introduced. |

### 3.25.19 interface ccp

**Description** Enable [CCP](#) support during establishing connection.

Command with **no** prefix disables [CCP](#).

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Interface type** PPP

**Synopsis**

```
(config-if)> ccp
(config-if)> no ccp
```

**Example**

```
(config-if)> ccp
CCP enabled.

(config-if)> no ccp
CCP disabled.
```

**History**

| Version | Description                                           |
|---------|-------------------------------------------------------|
| 2.00    | The <b>interface ccp</b> command has been introduced. |

### 3.25.20 interface channel

**Description** Set the radio channel (broadcasting frequency band) for wireless interfaces. Wi-Fi interfaces take integers from 1 to 14 (frequency range from 2.412 GHz to 2.484 GHz) and from 36 to 165 (frequency range from 5.180 GHz to 5.825 GHz) as channel numbers. By default, auto value is used.

Command with **no** prefix resets to default.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Interface type** Radio

**Synopsis**

```
(config-if)> channel <channel>
(config-if)> no channel
```

**Arguments**

| Argument | Value  | Description              |
|----------|--------|--------------------------|
| channel  | number | Number of radio channel. |

| Argument | Value | Description                                     |
|----------|-------|-------------------------------------------------|
|          | auto  | Radio channel number is detected automatically. |

**Example**

```
(config-if)> channel 8
Network::Interface::Rtx::WifiMaster: "WifiMaster0": channel set ►
to 8.
```

```
(config-if)> channel 36
Network::Interface::Rtx::WifiMaster: "WifiMaster1": channel set ►
to 36.
```

```
(config-if)> no channel
Network::Interface::Rtx::WifiMaster: "WifiMaster0": auto channel ►
mode set.
```

**History**

| Version | Description                                               |
|---------|-----------------------------------------------------------|
| 2.00    | The <b>interface channel</b> command has been introduced. |

## 3.25.21 interface channel auto-rescan

**Description** Set a schedule for radio channel automatic scanning. By default, the setting is disabled.

Command with **no** prefix disables the setting.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Interface type** Radio

**Synopsis** (config-if)> **channel auto-rescan** [ <hh>:<mm> ] **interval** <interval>

(config-if)> **no channel auto-rescan**

**Arguments**

| Argument | Value | Description               |
|----------|-------|---------------------------|
| interval | 1     | Rescan interval in hours. |
|          | 6     |                           |
|          | 12    |                           |
|          | 24    |                           |

**Example**

```
(config-if)> channel auto-rescan interval 1
Network::Interface::Rtx::WifiMaster: "WifiMaster0": scheduled ►
auto rescan, interval 1 hour.
```

```
(config-if)> no channel auto-rescan
Network::Interface::Rtx::WifiMaster: "WifiMaster0": auto rescan ►
disabled.
```

**History**

| Version | Description                                                           |
|---------|-----------------------------------------------------------------------|
| 2.07    | The <b>interface channel auto-rescan</b> command has been introduced. |

## 3.25.22 interface channel width

**Description** Set the bandwidth for a specified channel. By default, 40-below value is used.

Command with **no** prefix resets to default.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Interface type** Radio

**Synopsis**

```
(config-if)> channel width <width>
(config-if)> no channel width
```

**Arguments**

| Argument | Value    | Description                                               |
|----------|----------|-----------------------------------------------------------|
| width    | 20       | Set bandwidth equal to 20 MHz.                            |
|          | 40-above | Expand the bandwidth up to 40 MHz using next channel.     |
|          | 40-below | Expand the bandwidth up to 40 MHz using previous channel. |

**Example**

```
(config-if)> channel width 20
Network::Interface::Rtx::WifiMaster: "WifiMaster0": channel ►
bandwidth setting applied.
```

```
(config-if)> no channel width
Network::Interface::Rtx::WifiMaster: "WifiMaster0": channel ►
bandwidth settings reset to default.
```

**History**

| Version | Description                                                     |
|---------|-----------------------------------------------------------------|
| 2.04    | The <b>interface channel width</b> command has been introduced. |



### 3.25.23 interface chilli coaport

**Description** Set [UDP](#) port to which disconnect requests from the [RADIUS](#) client are sent.  
Command with **no** prefix removes the setting.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Interface type** Chilli

**Synopsis**

```
(config-if)> chilli coaport <coaport>
(config-if)> no chilli coaport
```

**Arguments**

| Argument | Value          | Description                          |
|----------|----------------|--------------------------------------|
| coaport  | <i>Integer</i> | The <a href="#">CoA</a> port number. |

**Example**

```
(config-if)> chilli coaport 3940
Chilli::Interface: "Chilli0": coaport set to 3940.
```

```
(config-if)> no chilli coaport
Chilli::Interface: "Chilli0": coaport reset to default.
```

**History**

| Version | Description                                                      |
|---------|------------------------------------------------------------------|
| 2.10    | The <b>interface chilli coaport</b> command has been introduced. |

### 3.25.24 interface chilli dhcpif

**Description** Assign Chilli interface to the system network interface.  
Command with **no** prefix cancels the association.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Interface type** Chilli

**Synopsis**

```
(config-if)> chilli dhcpif <dhcpif>
(config-if)> no chilli dhcpif
```

**Arguments**

| Argument | Value            | Description                      |
|----------|------------------|----------------------------------|
| dhcpif   | <i>Interface</i> | Full interface name or an alias. |

**Example**

```
(config-if)> chilli dhcpif Bridge1
Chilli::Interface: "Chilli0": bound to Bridge1.
```

```
(config-if)> no chilli dhcpif
Chilli::Interface: "Chilli0": unbound.
```

**History**

| Version | Description                                                     |
|---------|-----------------------------------------------------------------|
| 2.10    | The <b>interface chilli dhcpif</b> command has been introduced. |

## 3.25.25 interface chilli dns

**Description**

Set IP address of the DNS server.

Command with **no** prefix removes the setting.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

No

**Interface type**

Chilli

**Synopsis**

```
(config-if)> chilli dns <dns1> [ <dns2> ]
```

```
(config-if)> no chilli dns
```

**Arguments**

| Argument | Value             | Description                      |
|----------|-------------------|----------------------------------|
| dns1     | <i>IP address</i> | Address of primary DNS server.   |
| dns2     | <i>IP address</i> | Address of secondary DNS server. |

**Example**

```
(config-if)> chilli dns 8.8.8.8 1.1.1.1
Chilli::Interface: "Chilli0": DNS servers set to 8.8.8.8, 1.1.1.1.
```

```
(config-if)> no chilli dns
Chilli::Interface: "Chilli0": DNS servers reset to default.
```

**History**

| Version | Description                                                  |
|---------|--------------------------------------------------------------|
| 2.10    | The <b>interface chilli dns</b> command has been introduced. |

## 3.25.26 interface chilli lease

**Description** Configure the lease time of the connected client IP addresses. By default, the value 3600 is used.

Command with **no** prefix resets setting to default.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Interface type** Chilli

**Synopsis**

```
(config-if)> chilli lease <lease>
(config-if)> no chilli lease
```

**Arguments**

| Argument | Value          | Description                                         |
|----------|----------------|-----------------------------------------------------|
| lease    | <i>Integer</i> | Lease time in seconds. The maximum value is 259200. |

**Example**

```
(config-if)> chilli lease 1000
Chilli::Interface: "Chilli0": lease has been set 1000 seconds.
```

```
(config-if)> no chilli lease
Chilli::Interface: "Chilli0": lease has been reset to default ►
(3600 seconds).
```

**History**

| Version | Description                                                    |
|---------|----------------------------------------------------------------|
| 2.11    | The <b>interface chilli lease</b> command has been introduced. |

## 3.25.27 interface chilli login

**Description** Configure authorization to connect to the [RADIUS](#) server.

**Prefix no** No

**Change settings** No

**Multiple input** No

**Interface type** Chilli

**Synopsis**

```
(config-if)> chilli login <mac> [ username <username> password <password> ]
```

**Arguments**

| Argument | Value              | Description                      |
|----------|--------------------|----------------------------------|
| mac      | <i>MAC address</i> | MAC address for authentication.  |
| username | <i>String</i>      | Username for authentication.     |
| password | <i>String</i>      | The password for authentication. |

**Example**

```
(config-if)> interface Chilli0 chilli login 00:01:02:03:04:05
Chilli::Interface: "Chilli0": sent login request for ►
00:01:02:03:04:05
```

```
(config-if)> interface Chilli0 chilli login 00:01:02:03:04:05 ►
username test password test
Chilli::Interface: "Chilli0": sent login request for ►
00:01:02:03:04:05
```

**History**

| Version | Description                                                    |
|---------|----------------------------------------------------------------|
| 4.00    | The <b>interface chilli login</b> command has been introduced. |

## 3.25.28 interface chilli logout

**Description** Force the MAC address of the specified client to be disabled.

**Prefix no** No

**Change settings** No

**Multiple input** No

**Interface type** Chilli

**Synopsis** `(config-if)> chilli logout (<mac> | all)`

**Arguments**

| Argument | Value              | Description                           |
|----------|--------------------|---------------------------------------|
| mac      | <i>MAC address</i> | MAC address of the registered client. |
| all      | Keyword            | Disable all MAC addresses.            |

**Example**

```
(config-if)> chilli logout 64:a2:22:51:b4:11
```

```
(config-if)> chilli logout all
Chilli::Interface: "Chilli0": service restarted.
```

**History**

| Version | Description                                                     |
|---------|-----------------------------------------------------------------|
| 2.10    | The <b>interface chilli logout</b> command has been introduced. |

### 3.25.29 interface chilli macauth

**Description** Enable user authentication option based on MAC address detection only.  
Command with **no** prefix disables the setting.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Interface type** Chilli

**Synopsis**

```
(config-if)> chilli macauth
(config-if)> no chilli macauth
```

**Example**

```
(config-if)> chilli macauth
Chilli::Interface: "Chilli0": macauth set to "".

(config-if)> no chilli macauth
Chilli::Interface: "Chilli0": macauth cleared.
```

**History**

| Version | Description                                                      |
|---------|------------------------------------------------------------------|
| 2.10    | The <b>interface chilli macauth</b> command has been introduced. |

### 3.25.30 interface chilli macpasswd

**Description** Set the password for MAC address authentication.  
Command with **no** prefix removes the setting.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Interface type** Chilli

**Synopsis**

```
(config-if)> chilli macpasswd <macpasswd>
(config-if)> no chilli macpasswd
```

**Arguments**

| Argument  | Value         | Description        |
|-----------|---------------|--------------------|
| macpasswd | <i>String</i> | The user password. |

**Example**

```
(config-if)> chilli macpasswd 1234567890
Chilli::Interface: "Chilli0": macpasswd set to "1234567890".

(config-if)> no chilli macpasswd
Chilli::Interface: "Chilli0": macpasswd cleared.
```

**History**

| Version | Description                                                        |
|---------|--------------------------------------------------------------------|
| 2.11    | The <b>interface chilli macpasswd</b> command has been introduced. |

## 3.25.31 interface chilli nasip

**Description**

Set [RADIUS](#) option NAS IP Address. Allows you to configure and use an arbitrary IP address.

Command with **no** prefix removes the setting.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

No

**Interface type**

Chilli

**Synopsis**

```
(config-if)>  chilli nasip (<address> | interface <wan> | auto)

(config-if)> no chilli nasip
```

**Arguments**

| Argument | Value             | Description                                  |
|----------|-------------------|----------------------------------------------|
| address  | <i>IP address</i> | Specific IP address of the server.           |
| wan      | <i>Interface</i>  | IP address from the specified WAN interface. |
| auto     | <i>Keyword</i>    | IP address from the current WAN interface.   |

**Example**

```
(config-if)> chilli nasip 95.213.215.187
Chilli::Interface: "Chilli0": NAS IP address set to ►
"95.213.215.187".

(config-if)> chilli nasip interface ISP
Chilli::Interface: "Chilli0": NAS IP interface set to ►
"GigabitEthernet1".

(config-if)> chilli nasip auto
Chilli::Interface: "Chilli0": NAS IP address set to auto.

(config-if)> no chilli nasip
Chilli::Interface: "Chilli0": NAS IP address cleared.
```

**History**

| Version | Description                                                    |
|---------|----------------------------------------------------------------|
| 2.10    | The <b>interface chilli nasip</b> command has been introduced. |

## 3.25.32 interface chilli nasmac

**Description**

Set MAC address for *RADIUS* Called-Station-ID attribute. By default, MAC address of the guest network is used.

Command with **no** prefix resets setting to default.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

No

**Interface type**

Chilli

**Synopsis**

```
(config-if)> chilli nasmac <mac>
```

```
(config-if)> no chilli nasmac
```

**Arguments**

| Argument | Value              | Description                                   |
|----------|--------------------|-----------------------------------------------|
| mac      | <i>MAC address</i> | New MAC address for RADIUS Called-Station-ID. |

**Example**

```
(config-if)> chilli nasmac 50:ff:20:00:1e:86
Chilli::Interface: "Chilli0": NAS MAC address set to ►
"50:ff:20:00:1e:86".
```

```
(config-if)> no chilli nasmac
Chilli::Interface: "Chilli0": NAS MAC address cleared.
```

**History**

| Version | Description                                                     |
|---------|-----------------------------------------------------------------|
| 2.11    | The <b>interface chilli nasmac</b> command has been introduced. |

## 3.25.33 interface chilli profile

**Description**

Assign Chilli profile to the Chilli interface.

Command with **no** prefix removes the setting.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

No

**Interface type** Chilli

**Synopsis**

```
(config-if)> chilli profile <profile>
```

```
(config-if)> no chilli profile
```

**Arguments**

| Argument | Value         | Description                                 |
|----------|---------------|---------------------------------------------|
| profile  | <i>String</i> | <a href="#">RADIUS</a> server profile name. |

**Example**

```
(config-if)> chilli profile Wi-Fi_SYSTEM  
Chilli::Interface: "Chilli0": assigned profile: Wi-Fi.
```

```
(config-if)> no chilli profile  
Chilli::Interface: "Chilli0": profile cleared.
```

**History**

| Version | Description                                                      |
|---------|------------------------------------------------------------------|
| 2.10    | The <b>interface chilli profile</b> command has been introduced. |

## 3.25.34 interface chilli radius

**Description** Add the [RADIUS](#) server addresses.Command with **no** prefix removes the servers.**Prefix no** Yes**Change settings** Yes**Multiple input** No**Interface type** Chilli

**Synopsis**

```
(config-if)> chilli radius <server1> [ <server2> ]
```

```
(config-if)> no chilli radius
```

**Arguments**

| Argument | Value         | Description                                      |
|----------|---------------|--------------------------------------------------|
| server1  | <i>String</i> | Address of first <a href="#">RADIUS</a> server.  |
| server2  | <i>String</i> | Address of second <a href="#">RADIUS</a> server. |

**Example**

```
(config-if)> chilli radius radius.example.net radius2.example.net  
Chilli::Interface: "Chilli0": RADIUS servers set to ►  
radius.example.net, radius2.example.net.
```

```
(config-if)> no chilli radius  
Chilli::Interface: "Chilli0": RADIUS servers cleared.
```



| History | Version | Description                                                     |
|---------|---------|-----------------------------------------------------------------|
|         | 2.10    | The <b>interface chilli radius</b> command has been introduced. |

### 3.25.35 interface chilli radiusacctport

**Description** Set accounting UDP-port of *RADIUS* server. By default, value 1813 is used.  
Command with **no** prefix resets port to default.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Interface type** Chilli

**Synopsis**

```
(config-if)> chilli radiusacctport <radiusacctport>
(config-if)> no chilli radiusacctport
```

| Arguments | Argument       | Value         | Description      |
|-----------|----------------|---------------|------------------|
|           | radiusacctport | <i>String</i> | The port number. |

**Example**

```
(config-if)> chilli radiusacctport 1819
Chilli::Interface: "Chilli0": radiusacctport set to 1819.

(config-if)> no chilli radiusacctport
Chilli::Interface: "Chilli0": radiusacctport reset to default.
```

| History | Version | Description                                                             |
|---------|---------|-------------------------------------------------------------------------|
|         | 3.06    | The <b>interface chilli radiusacctport</b> command has been introduced. |

### 3.25.36 interface chilli radiusauthport

**Description** Set authentication UDP-port of *RADIUS* server. By default, value 1812 is used.  
Command with **no** prefix resets port to default.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Interface type** Chilli

**Synopsis**

```
(config-if)> chilli radiusauthport <radiusauthport>
```

```
(config-if)> no chilli radiusauthport
```

**Arguments**

| Argument       | Value         | Description      |
|----------------|---------------|------------------|
| radiusauthport | <i>String</i> | The port number. |

**Example**

```
(config-if)> chilli radiusauthport 1820  
Chilli::Interface: "Chilli0": radiusauthport set to 1820.
```

```
(config-if)> no chilli radiusauthport  
Chilli::Interface: "Chilli0": radiusauthport reset to default.
```

**History**

| Version | Description                                                             |
|---------|-------------------------------------------------------------------------|
| 3.06    | The <b>interface chilli radiusauthport</b> command has been introduced. |

## 3.25.37 interface chilli radiuslocationid

**Description**

Set location identifier of [RADIUS](#) server. It should be in the format isocc=, cc=, ac=, network=.

Command with **no** prefix removes the setting.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

No

**Interface type**

Chilli

**Synopsis**

```
(config-if)> chilli radiuslocationid <radiuslocationid>
```

```
(config-if)> no chilli radiuslocationid
```

**Arguments**

| Argument         | Value         | Description                |
|------------------|---------------|----------------------------|
| radiuslocationid | <i>String</i> | Location identifier value. |

**Example**

```
(config-if)> chilli radiuslocationid ►  
isocc=,cc=,ac=,network=WiFiSYSTEM,  
Chilli::Interface: "Chilli0": radiuslocationid set to ►  
"isocc=,cc=,ac=,network=WiFiSYSTEM,".
```

```
(config-if)> no chilli radiuslocationid  
Chilli::Interface: "Chilli0": radiuslocationid cleared.
```

| History | Version | Description                                                               |
|---------|---------|---------------------------------------------------------------------------|
|         | 2.10    | The <b>interface chilli radiuslocationid</b> command has been introduced. |

### 3.25.38 interface chilli radiuslocationname

**Description** Set location name of *RADIUS* server.  
Command with **no** prefix removes the setting.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Interface type** Chilli

**Synopsis**

```
(config-if)> chilli radiuslocationname <radiuslocationname>
(config-if)> no chilli radiuslocationname
```

| Arguments | Argument           | Value         | Description    |
|-----------|--------------------|---------------|----------------|
|           | radiuslocationname | <i>String</i> | Location name. |

**Example**

```
(config-if)> chilli radiuslocationname MyHotSpot
Chilli::Interface: "Chilli0": radiuslocationname set to ►
"MyHotSpot".
```

```
(config-if)> no chilli radiuslocationname
Chilli::Interface: "Chilli0": radiuslocationname cleared.
```

| History | Version | Description                                                                 |
|---------|---------|-----------------------------------------------------------------------------|
|         | 2.10    | The <b>interface chilli radiuslocationname</b> command has been introduced. |

### 3.25.39 interface chilli radiusnasid

**Description** Set Network Access Server identifier.  
Command with **no** prefix removes the setting.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Interface type** Chilli**Synopsis**

```
(config-if)> chilli radiusnasid <radiusnasid>
```

```
(config-if)> no chilli radiusnasid
```

**Arguments**

| Argument    | Value         | Description     |
|-------------|---------------|-----------------|
| radiusnasid | <i>String</i> | NAS identifier. |

**Example**

```
(config-if)> chilli radiusnasid example_12
Chilli::Interface: "Chilli0": radiusnasid set to "example_12".
```

```
(config-if)> no chilli radiusnasid
Chilli::Interface: "Chilli0": radiusnasid cleared.
```

**History**

| Version | Description                                                          |
|---------|----------------------------------------------------------------------|
| 2.10    | The <b>interface chilli radiusnasid</b> command has been introduced. |

## 3.25.40 interface chilli radiussecret

**Description**Set shared secret for both [RADIUS](#) servers.Command with **no** prefix removes the setting.**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

No

**Interface type**

Chilli

**Synopsis**

```
(config-if)> chilli radiussecret <radiussecret>
```

```
(config-if)> no chilli radiussecret
```

**Arguments**

| Argument     | Value         | Description     |
|--------------|---------------|-----------------|
| radiussecret | <i>String</i> | A secret value. |

**Example**

```
(config-if)> chilli radiussecret 12df34fd
Chilli::Interface: "Chilli0": radiussecret set to "12df34fd".
```

```
(config-if)> no chilli radiussecret
Chilli::Interface: "Chilli0": radiussecret cleared.
```

**History**

| Version | Description                                                           |
|---------|-----------------------------------------------------------------------|
| 2.10    | The <b>interface chilli radiussecret</b> command has been introduced. |

## 3.25.41 interface chilli uamallowed

**Description**

Specify the resource to which the client has access without first authenticating.

Command with **no** prefix removes the resource from the list. If you use no argument, the entire list of resources will be cleared.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

Yes

**Interface type**

Chilli

**Synopsis**

```
(config-if)> chilli uamallowed <uamallowed>
```

```
(config-if)> no chilli uamallowed [ <uamallowed> ]
```

**Arguments**

| Argument   | Value         | Description                    |
|------------|---------------|--------------------------------|
| uamallowed | <i>String</i> | IP-address, URL or subnetwork. |

**Example**

```
(config-if)> chilli uamallowed 188.166.114.0/24
```

```
Chilli::Interface: "Chilli0": "188.166.114.0/24" added to walled ► garden.
```

```
(config-if)> chilli uamallowed www.example.link
```

```
Chilli::Interface: "Chilli0": "www.example.link" added to walled ► garden.
```

```
(config-if)> no chilli uamallowed 188.166.114.0/24
```

```
Chilli::Interface: "Chilli0": "188.166.114.0/24" removed from ► walled garden.
```

```
(config-if)> no chilli uamallowed www.example.link
```

```
Chilli::Interface: "Chilli0": "www.example.link" removed from ► walled garden.
```

```
(config-if)> no chilli uamallowed
```

```
Chilli::Interface: "Chilli0": walled garden cleared.
```

**History**

| Version | Description                                                         |
|---------|---------------------------------------------------------------------|
| 2.10    | The <b>interface chilli uamallowed</b> command has been introduced. |

## 3.25.42 interface chilli uamdomain

| Description     | Specify the domain name to which the client has access without first authenticating.<br><br>Command with <b>no</b> prefix removes the domain name from the list. If you use no argument, the entire list of domain names will be cleared.                                                                                                                                                   |                             |  |          |             |             |                                                                    |        |                             |
|-----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|--|----------|-------------|-------------|--------------------------------------------------------------------|--------|-----------------------------|
| Prefix no       | Yes                                                                                                                                                                                                                                                                                                                                                                                         |                             |  |          |             |             |                                                                    |        |                             |
| Change settings | Yes                                                                                                                                                                                                                                                                                                                                                                                         |                             |  |          |             |             |                                                                    |        |                             |
| Multiple input  | Yes                                                                                                                                                                                                                                                                                                                                                                                         |                             |  |          |             |             |                                                                    |        |                             |
| Interface type  | Chilli                                                                                                                                                                                                                                                                                                                                                                                      |                             |  |          |             |             |                                                                    |        |                             |
| Synopsis        | <pre>(config-if)&gt;  chilli uamdomain &lt;uamdomain&gt;</pre> <pre>(config-if)&gt; no chilli uamdomain [ &lt;uamdomain&gt; ]</pre>                                                                                                                                                                                                                                                         |                             |  |          |             |             |                                                                    |        |                             |
| Arguments       | <table><tr><th>Argument</th><th>Value</th><th>Description</th></tr><tr><td>uamdomain</td><td>String</td><td>Domain name of remote host.</td></tr></table>                                                                                                                                                                                                                                   |                             |  | Argument | Value       | Description | uamdomain                                                          | String | Domain name of remote host. |
| Argument        | Value                                                                                                                                                                                                                                                                                                                                                                                       | Description                 |  |          |             |             |                                                                    |        |                             |
| uamdomain       | String                                                                                                                                                                                                                                                                                                                                                                                      | Domain name of remote host. |  |          |             |             |                                                                    |        |                             |
| Example         | <pre>(config-if)&gt; chilli uamdomain example.net</pre> <p>Chilli::Interface: "Chilli0": "example.net" added to walled ► garden.</p> <pre>(config-if)&gt; no chilli uamdomain example.net</pre> <p>Chilli::Interface: "Chilli0": "example.net" removed from walled ► garden.</p> <pre>(config-if)&gt; no chilli uamdomain</pre> <p>Chilli::Interface: "Chilli0": walled garden cleared.</p> |                             |  |          |             |             |                                                                    |        |                             |
| History         | <table><tr><th>Version</th><th>Description</th></tr><tr><td>2.10</td><td>The <b>interface chilli uamdomain</b> command has been introduced.</td></tr></table>                                                                                                                                                                                                                               |                             |  | Version  | Description | 2.10        | The <b>interface chilli uamdomain</b> command has been introduced. |        |                             |
| Version         | Description                                                                                                                                                                                                                                                                                                                                                                                 |                             |  |          |             |             |                                                                    |        |                             |
| 2.10            | The <b>interface chilli uamdomain</b> command has been introduced.                                                                                                                                                                                                                                                                                                                          |                             |  |          |             |             |                                                                    |        |                             |

## 3.25.43 interface chilli uamhomepage

|                        |                                                                                                                     |
|------------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>Description</b>     | Set URL of homepage to redirect unauthenticated users to.<br><br>Command with <b>no</b> prefix removes the setting. |
| <b>Prefix no</b>       | Yes                                                                                                                 |
| <b>Change settings</b> | Yes                                                                                                                 |
| <b>Multiple input</b>  | No                                                                                                                  |

| Interface type | Chilli                                                                                                                                                                                                                                                                                            |             |             |             |                                                                      |               |             |
|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|-------------|-------------|----------------------------------------------------------------------|---------------|-------------|
| Synopsis       | <pre>(config-if)&gt; <b>chilli uamhomepage</b> &lt;uamhomepage&gt;</pre> <pre>(config-if)&gt; <b>no chilli uamhomepage</b></pre>                                                                                                                                                                  |             |             |             |                                                                      |               |             |
| Arguments      | <table><tr><th>Argument</th><th>Value</th><th>Description</th></tr><tr><td>uamhomepage</td><td><i>String</i></td><td>Custom URL.</td></tr></table>                                                                                                                                                | Argument    | Value       | Description | uamhomepage                                                          | <i>String</i> | Custom URL. |
| Argument       | Value                                                                                                                                                                                                                                                                                             | Description |             |             |                                                                      |               |             |
| uamhomepage    | <i>String</i>                                                                                                                                                                                                                                                                                     | Custom URL. |             |             |                                                                      |               |             |
| Example        | <pre>(config-if)&gt; <b>chilli uamhomepage http://192.168.2.1/welcome.html</b><br/>Chilli::Interface: "Chilli0": uamhomepage set to ►<br/>"http://192.168.2.1/welcome.html".</pre> <pre>(config-if)&gt; <b>no chilli uamhomepage</b><br/>Chilli::Interface: "Chilli0": uamhomepage cleared.</pre> |             |             |             |                                                                      |               |             |
| History        | <table><tr><th>Version</th><th>Description</th></tr><tr><td>2.10</td><td>The <b>interface chilli uamhomepage</b> command has been introduced.</td></tr></table>                                                                                                                                   | Version     | Description | 2.10        | The <b>interface chilli uamhomepage</b> command has been introduced. |               |             |
| Version        | Description                                                                                                                                                                                                                                                                                       |             |             |             |                                                                      |               |             |
| 2.10           | The <b>interface chilli uamhomepage</b> command has been introduced.                                                                                                                                                                                                                              |             |             |             |                                                                      |               |             |

### 3.25.44 interface chilli uamport

| Description     | Set <a href="#">TCP</a> port to bind to for authenticating clients. By default, value 3990 is used.<br><br>Command with <b>no</b> prefix resets port to default.                                                                 |                  |       |             |         |                |                  |
|-----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|-------|-------------|---------|----------------|------------------|
| Prefix no       | Yes                                                                                                                                                                                                                              |                  |       |             |         |                |                  |
| Change settings | Yes                                                                                                                                                                                                                              |                  |       |             |         |                |                  |
| Multiple input  | No                                                                                                                                                                                                                               |                  |       |             |         |                |                  |
| Interface type  | Chilli                                                                                                                                                                                                                           |                  |       |             |         |                |                  |
| Synopsis        | <pre>(config-if)&gt;  chilli uamport &lt;uamport&gt;</pre> <pre>(config-if)&gt; no chilli uamport</pre>                                                                                                                          |                  |       |             |         |                |                  |
| Arguments       | <table><tr><th>Argument</th><th>Value</th><th>Description</th></tr><tr><td>uamport</td><td><i>Integer</i></td><td>The port number.</td></tr></table>                                                                             | Argument         | Value | Description | uamport | <i>Integer</i> | The port number. |
| Argument        | Value                                                                                                                                                                                                                            | Description      |       |             |         |                |                  |
| uamport         | <i>Integer</i>                                                                                                                                                                                                                   | The port number. |       |             |         |                |                  |
| Example         | <pre>(config-if)&gt;  chilli uamport 3922</pre> <pre>Chilli::Interface: "Chilli0": uamport set to 3922.</pre><br><pre>(config-if)&gt; no chilli uamport</pre> <pre>Chilli::Interface: "Chilli0": uamport reset to default.</pre> |                  |       |             |         |                |                  |

**History**

| Version | Description                                                      |
|---------|------------------------------------------------------------------|
| 2.10    | The <b>interface chilli uamport</b> command has been introduced. |

## 3.25.45 interface chilli uamsecret

**Description**

Set shared secret between [UAM](#) server and Chilli. The [UAM](#) secret is used to hash the challenge before password computation.

Command with **no** prefix removes the setting.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

No

**Interface type**

Chilli

**Synopsis**

```
(config-if)> chilli uamsecret <uamsecret>
```

```
(config-if)> no chilli uamsecret
```

**Arguments**

| Argument  | Value         | Description     |
|-----------|---------------|-----------------|
| uamsecret | <i>String</i> | A secret value. |

**Example**

```
(config-if)> chilli uamsecret 12df34fd  
Chilli::Interface: "Chilli0": uamsecret set to "12df34fd".
```

```
(config-if)> no chilli uamsecret  
Chilli::Interface: "Chilli0": uamsecret set to "".
```

**History**

| Version | Description                                                        |
|---------|--------------------------------------------------------------------|
| 2.10    | The <b>interface chilli uamsecret</b> command has been introduced. |

## 3.25.46 interface chilli uamserver

**Description**

Set URL of web server to use for authenticating clients.

Command with **no** prefix removes the setting.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

No



**Interface type** Chilli

**Synopsis**

```
(config-if)> chilli uamserver <uamserver>
```

```
(config-if)> no chilli uamserver
```

**Arguments**

| Argument  | Value         | Description               |
|-----------|---------------|---------------------------|
| uamserver | <i>String</i> | Custom URL of web server. |

**Example**

```
(config-if)> chilli uamserver ►
https://auth.example.net/hotspotlogin
Chilli::Interface: "Chilli0": uamserver set to ►
"https://auth.example.net/hotspotlogin".
```

```
(config-if)> no chilli uamserver
Chilli::Interface: "Chilli0": uamserver cleared.
```

**History**

| Version | Description                                                        |
|---------|--------------------------------------------------------------------|
| 2.10    | The <b>interface chilli uamserver</b> command has been introduced. |

## 3.25.47 interface compatibility

**Description**

Set the standard for wireless communications, with which a given wireless adapter (the interface) must be compatible. For Wi-Fi interfaces, the compatibility is set by string of Latin letters A, B, G, N, that denote extensions to the standard IEEE 802.11. For example, the presence 'N' in the compatibility line will imply that the given adapter will be able to deal with the 802.11n-compatible devices via radio channel. The set of admissible compatibility lines is defined by the hardware capabilities of a particular adapter and provisions of the relevant additions to the IEEE 802.11 standard.

By default, "BGN" value is used for 2.4 GHz, "AN" — for 5 GHz.

**Prefix no** No**Change settings** Yes**Multiple input** No**Interface type** Radio

**Synopsis**

```
(config-if)> compatibility <annex>
```

**Arguments**

| Argument | Value   | Description  |
|----------|---------|--------------|
| annex    | B, G, N | For 2,4 GHz. |
|          | A, N    | For 5 GHz.   |

| Argument | Value   | Description               |
|----------|---------|---------------------------|
|          | A, N+AC | Additional IEEE standard. |

**Example**

```
(config-if)> compatibility N
Network::Interface::Rtx::WifiMaster: "WifiMaster0": PHY mode set.
```

```
(config-if)> compatibility N+AC
Network::Interface::Rtx::WifiMaster: "WifiMaster1": PHY mode set.
```

**History**

| Version | Description                                                     |
|---------|-----------------------------------------------------------------|
| 2.00    | The <b>interface compatibility</b> command has been introduced. |
| 2.06    | New standard AC was added.                                      |

## 3.25.48 interface connect

**Description**

Start the process of connecting to a remote node.

Command with **no** prefix terminates the connection.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

No

**Interface type**

PPP, IP

**Synopsis**

```
(config-if)> connect [ via <via> ]
```

```
(config-if)> no connect
```

**Arguments**

| Argument | Value            | Description                                                                          |
|----------|------------------|--------------------------------------------------------------------------------------|
| via      | <i>Interface</i> | Interface through which remote node is accessed. For PPPoE this option is mandatory. |

**Example**

```
(config-if)> connect via ISP
```

```
(config-if)> no connect
```

**History**

| Version | Description                                               |
|---------|-----------------------------------------------------------|
| 2.00    | The <b>interface connect</b> command has been introduced. |

## 3.25.49 interface country-code

**Description** Assign to the interface a literal country code, which influences the set of radio channels. By default, RU value is used.

**Prefix no** No

**Change settings** Yes

**Multiple input** No

**Interface type** Radio

**Synopsis** `(config-if)> country-code <code>`

**Arguments**

| Argument | Value         | Description       |
|----------|---------------|-------------------|
| code     | <i>String</i> | The country code. |

**Example**

```
(config-if)> country-code RU
Network::Interface::Rtx::WifiMaster: "WifiMaster0": country code ►
set.
```

**History**

| Version | Description                                                    |
|---------|----------------------------------------------------------------|
| 2.00    | The <b>interface country-code</b> command has been introduced. |

## 3.25.50 interface debug

**Description** Enable debug mode of [PPP](#) connection. Detailed info about connection progress is saved to the system log. By default, setting is disabled.

Command with **no** prefix disables the debug mode.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Interface type** PPP

**Synopsis** `(config-if)> debug`

`(config-if)> no debug`

**Example**

```
(config-if)> debug
Network::Interface::Base: Debug enabled.
```

```
(config-if)> no debug
Network::Interface::Base: Debug disabled.
```

**History**

| Version | Description                                             |
|---------|---------------------------------------------------------|
| 2.00    | The <b>interface debug</b> command has been introduced. |

## 3.25.51 interface description

**Description**

Assign arbitrary description to the specified network interface.

Command with **no** prefix deletes the description.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

No

**Synopsis**

```
(config-if)> description <description>
```

```
(config-if)> no description
```

**Arguments**

| Argument    | Value         | Description                             |
|-------------|---------------|-----------------------------------------|
| description | <i>String</i> | Arbitrary description of the interface. |

**Example**

```
(config-if)> description MYHOME
Network::Interface::Base: "Bridge0": description saved.
```

```
(config-if)> no description
Network::Interface::Base: "Bridge0": description saved.
```

**History**

| Version | Description                                                   |
|---------|---------------------------------------------------------------|
| 2.00    | The <b>interface description</b> command has been introduced. |

## 3.25.52 interface down

**Description**

Disable the network interface and persist the state “down” to the settings.

Command with **no** prefix enables the network interface and deletes “down” from settings.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

No

**Synopsis**

```
(config-if)> down
```

```
(config-if)> no down
```

**Example**

```
(config-if)> down
Network::Interface::Base: "GigabitEthernet0/2": interface is down.
```

```
(config-if)> up
Network::Interface::Base: "GigabitEthernet0/2": interface is up.
```

**History**

| Version | Description                                            |
|---------|--------------------------------------------------------|
| 2.00    | The <b>interface down</b> command has been introduced. |

## 3.25.53 interface downlink-mumimo

**Description**

Enable the downlink (explicit) *Beamforming* (eBF) MU-MIMO for AP 5 GHz. The feature can be used for 802.11ac clients only and is incompatible with other standards. The setting cannot be enabled unless **interface beamforming explicit** is set.

Command with **no** prefix disables the feature.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

No

**Interface type**

WiFiMaster

**Synopsis**

```
(config-if)> downlink-mumimo
```

```
(config-if)> no downlink-mumimo
```

**Example**

```
(config-if)> downlink-mumimo
Network::Interface::Rtx::WifiMaster: "WifiMaster1": 11ac/ax ►
downlink-mumimo enabled.
```

```
(config-if)> no downlink-mumimo
Network::Interface::Rtx::WifiMaster: "WifiMaster1": 11ac/ax ►
downlink-mumimo disabled.
```

**History**

| Version | Description                                                       |
|---------|-------------------------------------------------------------------|
| 3.05    | The <b>interface downlink-mumimo</b> command has been introduced. |

### 3.25.54 interface downlink-ofdma

**Description** Enable 802.11ax downlink [OFDMA](#). By default, the feature is disabled.  
Command with **no** prefix disables the feature.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Interface type** WiFiMaster

**Synopsis**

```
(config-if)> downlink-ofdma
(config-if)> no downlink-ofdma
```

**Example**

```
(config-if)> downlink-ofdma
Network::Interface::Rtx::WifiMaster: "WifiMaster1": 11ax ►
downlink-ofdma enabled.

(config-if)> no downlink-ofdma
Network::Interface::Rtx::WifiMaster: "WifiMaster1": 11ax ►
downlink-ofdma disabled.
```

**History**

| Version | Description                                                      |
|---------|------------------------------------------------------------------|
| 3.07    | The <b>interface downlink-ofdma</b> command has been introduced. |

### 3.25.55 interface duplex

**Description** Set the duplex mode of the Ethernet port. By default, auto value is set.  
Command with **no** prefix resets setting to default.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Interface type** Ethernet

**Synopsis**

```
(config-if)> duplex (full | half | auto)
(config-if)> no duplex
```

**Arguments**

| Argument | Value | Description           |
|----------|-------|-----------------------|
| mode     | full  | Full duplex protocol. |

| Argument | Value | Description           |
|----------|-------|-----------------------|
|          | half  | Half duplex protocol. |
|          | auto  | Auto duplex protocol. |

**Example**

```
(config-if)> duplex full
Network::Interface::Ethernet: "GigabitEthernet0/1": duplex set ►
to "full".
```

```
(config-if)> no duplex
Network::Interface::Ethernet: "GigabitEthernet0/1": duplex reset ►
to default.
```

**History**

| Version  | Description                                              |
|----------|----------------------------------------------------------|
| 2.06.B.1 | The <b>interface duplex</b> command has been introduced. |

## 3.25.56 interface dyndns nobind

**Description**

Disable binding of a request to the WAN-interface.

Command with **no** prefix enables the binding.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

No

**Synopsis**

```
(config-if)> dyndns nobind
```

```
(config-if)> no dyndns nobind
```

**Example**

```
(config-if)> dyndns nobind
DynDns::Client: Disabled bind on interface GigabitEthernet1.
```

```
(config-if)> no dyndns nobind
DynDns::Client: Enabled bind on interface GigabitEthernet1.
```

**History**

| Version | Description                                                     |
|---------|-----------------------------------------------------------------|
| 4.02    | The <b>interface dyndns nobind</b> command has been introduced. |

## 3.25.57 interface dyndns profile

**Description**

Assign the DynDns profile to the interface. Profile must be created and customized with [dyndns profile](#) commands before execution.

Command with **no** prefix unbinds the profile.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Synopsis**

```
(config-if)> dyndns profile profile
(config-if)> no dyndns profile
```

**Arguments**

| Argument | Value         | Description                 |
|----------|---------------|-----------------------------|
| profile  | <i>String</i> | The name of DynDns profile. |

**Example**

```
(config-if)> dyndns profile TEST
DynDns::Profile: Interface set.
```

```
(config-if)> no dyndns profile TEST
DynDns::Profile: Interface removed.
```

**History**

| Version | Description                                                      |
|---------|------------------------------------------------------------------|
| 2.02    | The <b>interface dyndns profile</b> command has been introduced. |

## 3.25.58 interface dyndns update

**Description** Update IP address for DynDns manually. By default command works in accordance with the policy of the DynDns service provider, that is not allows to update too often. Using the keyword **force** allows you to update excluding policy of the service provider.

**Prefix no** No

**Change settings** Yes

**Multiple input** No

**Synopsis**

```
(config-if)> dyndns update [ force ]
```

**Arguments**

| Argument | Value          | Description                                                            |
|----------|----------------|------------------------------------------------------------------------|
| force    | <i>Keyword</i> | Not take into account the update rate recommended by service provider. |

**Example**

```
(config-if)> dyndns update
```



| History | Version | Description                                                     |
|---------|---------|-----------------------------------------------------------------|
|         | 2.00    | The <b>interface dyndns update</b> command has been introduced. |

### 3.25.59 interface encryption anonymous-dh

**Description** Enable Anonymous DH for SSTP servers without a certificate.

Command with **no** prefix disables Anonymous DH.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Interface type** SSTP

**Synopsis**

```
(config-if)> encryption anonymous-dh
(config-if)> no encryption anonymous-dh
```

**Example**

```
(config-if)> encryption anonymous-dh
Network::Interface::Sstp: "SSTP0": anonymous DH TLS is enabled.

(config-if)> no encryption anonymous-dh
Network::Interface::Sstp: "SSTP0": anonymous DH TLS is disabled.
```

| History | Version | Description                                                               |
|---------|---------|---------------------------------------------------------------------------|
|         | 2.13    | The <b>interface encryption anonymous-dh</b> command has been introduced. |

### 3.25.60 interface encryption enable

**Description** Enable encryption on the wireless interface. By default, [WEP](#) encryption is used.

Command with **no** prefix disables wireless interface encryption.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Interface type** WiFi

**Synopsis**

```
(config-if)> encryption enable
```

```
(config-if)> no encryption enable
```

**Example**

```
(config-if)> encryption enable
Network::Interface::Rtx::AccessPoint: "WifiMaster0/AccessPoint0": ►
wireless encryption enabled.
```

```
(config-if)> no encryption enable
Network::Interface::Rtx::AccessPoint: "WifiMaster0/AccessPoint0": ►
wireless encryption disabled.
```

**History**

| Version | Description                                                         |
|---------|---------------------------------------------------------------------|
| 2.00    | The <b>interface encryption enable</b> command has been introduced. |

## 3.25.61 interface encryption key

**Description**

Specify the [WEP](#) encryption keys. Depending on the bit, the key can be standard 64-bit [WEP](#) uses a 40 bit key (also known as WEP-40), or 128-bit [WEP](#) uses a 26 hexadecimal characters (13 characters ASCII). Overall, there can be 1 to 4 encryption keys, with one of them default key must be assigned.

Command with **no** prefix removes key.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

Yes

**Interface type**

WiFi

**Synopsis**

```
(config-if)> encryption key <id> (<value> [default] | default)
```

```
(config-if)> no encryption key <id>
```

**Arguments**

| Argument | Value          | Description                                                           |
|----------|----------------|-----------------------------------------------------------------------|
| id       | <i>Integer</i> | The key number. Overall, up to 4 keys could be specified.             |
| value    | <i>String</i>  | The key value as a hexadecimal number, consisting of 10 or 26 digits. |
| default  | <i>Keyword</i> | Indicates that this key will be used by default.                      |

**Example**

```
(config-if)> encryption key 1 1231231234
Network::Interface::Wifi: "WifiMaster0/AccessPoint0": WEP key 1 ►
set.
```

```
(config-if)> no encryption key 1
Network::Interface::Wifi: "WifiMaster0/AccessPoint0": WEP key 1 ►
removed.
```

**History**

| Version | Description                                                      |
|---------|------------------------------------------------------------------|
| 2.00    | The <b>interface encryption key</b> command has been introduced. |

## 3.25.62 interface encryption mppe

**Description**

Enable [MPPE](#) encryption support.

Command with **no** prefix disables [MPPE](#) encryption.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

No

**Interface type**

PPTP

**Synopsis**

```
(config-if)> encryption mppe
```

```
(config-if)> no encryption mppe
```

**Example**

```
(config-if)> encryption mppe
MPPE enabled.
```

```
(config-if)> no encryption mppe
MPPE disabled.
```

**History**

| Version | Description                                                       |
|---------|-------------------------------------------------------------------|
| 2.00    | The <b>interface encryption mppe</b> command has been introduced. |

## 3.25.63 interface encryption owe

**Description**

Enable [OWE](#) security algorithms on the wireless interface. By default, the setting is disabled.

Command with **no** prefix disables [OWE](#) support.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

No

**Interface type** WifiMaster

**Synopsis**

```
(config-if)> encryption owe
(config-if)> no encryption owe
```

**Example**

```
(config-if)> encryption owe
Network::Interface::Rtx::AccessPoint: "WifiMaster0/AccessPoint0": ►
OWE algorithms enabled.

(config-if)> no encryption owe
Network::Interface::Rtx::AccessPoint: "WifiMaster0/AccessPoint0": ►
OWE algorithms disabled.
```

**History**

| Version | Description                                                      |
|---------|------------------------------------------------------------------|
| 3.00    | The <b>interface encryption owe</b> command has been introduced. |

## 3.25.64 interface encryption tkip hold-down

**Description** Set the "countermeasure" timer value for *TKIP* when the joint use *WPA* and *WPA2* security algorithms on the wireless interface. By default, the value 60 is used.

Command with **no** prefix resets setting to default.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Interface type** WiFi

**Synopsis**

```
(config-if)> encryption tkip hold-down <hold-down>
(config-if)> no encryption tkip hold-down
```

**Arguments**

| Argument  | Value          | Description                                                                                                       |
|-----------|----------------|-------------------------------------------------------------------------------------------------------------------|
| hold-down | <i>Integer</i> | Timer value in seconds. Can take values in the range from 0 to 60. If timer is set to 0, the setting is disabled. |

**Example**

```
(config-if)> encryption tkip hold-down 10
Network::Interface::Rtx::AccessPoint: "WifiMaster0/AccessPoint0": ►
hold-down interval is 10 sec.
```

```
(config-if)> no encryption tkip hold-down
Network::Interface::Rtx::AccessPoint: "WifiMaster0/AccessPoint0": ►
hold-down interval is reset to default (60 sec.).
```

**History**

| Version | Description                                                                 |
|---------|-----------------------------------------------------------------------------|
| 3.08    | The <b>interface encryption tkip hold-down</b> command has been introduced. |

## 3.25.65 interface encryption wpa

**Description**

Enable [WPA](#) security algorithms on the wireless interface. Wireless interface can support the joint use of [WPA](#) and [WPA2](#), but supporting [WEP](#) automatically disables when any of the [WPA](#) is enabled.

Command with **no** prefix disables [WPA](#) support.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

No

**Interface type**

WiFi

**Synopsis**

```
(config-if)> encryption wpa
```

```
(config-if)> no encryption wpa
```

**Example**

```
(config-if)> encryption wpa
WPA algorithms enabled.
```

**History**

| Version | Description                                                      |
|---------|------------------------------------------------------------------|
| 2.00    | The <b>interface encryption wpa</b> command has been introduced. |

## 3.25.66 interface encryption wpa2

**Description**

Enable [WPA2](#) (IEEE 802.11i, RSN) security algorithms on the wireless interface. Wireless interface can support the joint use of [WPA](#) and [WPA2](#), but supporting [WEP](#) automatically disables when any of the [WPA](#) is enabled.

Command with **no** prefix disables [WPA2](#) support.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

No

**Interface type** WiFi

**Synopsis**

```
(config-if)> encryption wpa2
```

```
(config-if)> no encryption wpa2
```

**Example**

```
(config-if)> encryption wpa2
WPA2 algorithms enabled.
```

**History**

| Version | Description                                                       |
|---------|-------------------------------------------------------------------|
| 2.00    | The <b>interface encryption wpa2</b> command has been introduced. |

## 3.25.67 interface encryption wpa3

**Description** Enable [WPA3](#) security algorithms on the wireless interface. Wireless interface can support the joint use of [WPA2](#) and [WPA3](#). By default, the setting is disabled.

Command with **no** prefix disables [WPA3](#) support.

**Prefix no** Yes**Change settings** Yes**Multiple input** No**Interface type** WiFi

**Synopsis**

```
(config-if)> encryption wpa3
```

```
(config-if)> no encryption wpa3
```

**Example**

```
(config-if)> encryption wpa3
Network::Interface::Rtx::AccessPoint: "WifiMaster0/AccessPoint0": ►
WPA3 algorithms enabled.
```

```
(config-if)> no encryption wpa3
Network::Interface::Rtx::AccessPoint: "WifiMaster0/AccessPoint0": ►
WPA3 algorithms disabled.
```

**History**

| Version | Description                                                       |
|---------|-------------------------------------------------------------------|
| 3.00    | The <b>interface encryption wpa3</b> command has been introduced. |

## 3.25.68 interface encryption wpa3 suite-b

**Description** Enable [WPA3](#) security algorithms to protect sensitive data Suite-B for [WPA Enterprise](#). By default, the feature is disabled.

**Prefix no** No

**Change settings** Yes

**Multiple input** No

**Interface type** WiFi

**Synopsis** `(config-if)> encryption wpa3 suite-b`

**Example** `(config-if)> encryption wpa3 suite-b`  
 Network::Interface::Rtx::AccessPoint: "WifiMaster0/AccessPoint1": ►  
 WPA3 SuiteB enabled.

**History**

| Version | Description                                                               |
|---------|---------------------------------------------------------------------------|
| 3.01    | The <b>interface encryption wpa3 suite-b</b> command has been introduced. |

## 3.25.69 interface flowcontrol

**Description** Configure Ethernet flow control Tx/Rx. By default, the feature is enabled.  
 Command with **no** prefix disables the feature.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Interface type** Ethernet

**Synopsis** `(config-if)> flowcontrol on`  
`(config-if)> no flowcontrol [send]`

**Arguments**

| Argument | Value          | Description                        |
|----------|----------------|------------------------------------|
| send     | <i>Keyword</i> | Flow control works asynchronously. |

**Example** `(config-if)> flowcontrol on`  
 Network::Interface::Ethernet: "GigabitEthernet0/0": flow control ►  
 enabled.

```
(config-if)> no flowcontrol send
Network::Interface::Ethernet: "GigabitEthernet0/0": flow control ►
send disabled.
```

**History**

| Version | Description                                                   |
|---------|---------------------------------------------------------------|
| 2.08    | The <b>interface flowcontrol</b> command has been introduced. |

## 3.25.70 interface follow

**Description**

Copy settings from AP on WifiMaster0 (2.4 GHz) to the AP on WifiMaster with an index greater than zero (5 GHz or above).

The follower automatically copies all changes applied to the master access point.

If you change the follower settings, the link with the master access point is terminated.

Warning: The WifiMaster0 access points are always used as a source of settings. They never follow. They can only be followed.

**Prefix no**

No

**Change settings**

Yes

**Multiple input**

No

**Interface type**

AccessPoint

**Synopsis**

```
(config-if)> follow <access-point>
```

**Arguments**

| Argument     | Value            | Description                                                                                                                                             |
|--------------|------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|
| access-point | <i>Interface</i> | The name of an AccessPoint interface on the WifiMaster0 2.4 GHz. You can see the list of available interfaces with help of <b>follow</b> [Tab] command. |

**Example**

```
(config-if)> follow WifiMaster0/AccessPoint0
Network::Interface::AccessPoint: "WifiMaster1/AccessPoint0": set ►
to follow WifiMaster0/AccessPoint0.
```

**History**

| Version | Description                                              |
|---------|----------------------------------------------------------|
| 3.07    | The <b>interface follow</b> command has been introduced. |



## 3.25.71 interface ft enable

| <b>Description</b>     | <p>Enable support of <i>FT</i> for Access Point (FT Over the Air, OTA) within the IEEE 802.11r standard. By default, the option is disabled.</p> <p>For correct <i>FT</i> operation between 2,4 and 5 GHz APs it is necessary to fulfill the following conditions:</p> <ul style="list-style-type: none"> <li>• access points 2,4 GHz and 5 GHz are enabled both</li> <li>• they have the same SSID's</li> <li>• they have the same security settings (encryption type — WPA2 or without password, password value, etc.)</li> </ul> <p>Command with <b>no</b> prefix removes the setting.</p> |         |             |      |                                                             |
|------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|-------------|------|-------------------------------------------------------------|
| <b>Prefix no</b>       | Yes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |         |             |      |                                                             |
| <b>Change settings</b> | Yes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |         |             |      |                                                             |
| <b>Multiple input</b>  | No                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |         |             |      |                                                             |
| <b>Interface type</b>  | AccessPoint                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |         |             |      |                                                             |
| <b>Synopsis</b>        | <pre>(config-if)&gt; <b>ft enable</b></pre> <pre>(config-if)&gt; <b>no ft enable</b></pre>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |         |             |      |                                                             |
| <b>Example</b>         | <pre>(config-if)&gt; <b>ft enable</b></pre> <pre>Network::Interface::Rtx::AccessPoint: "WifiMaster0/AccessPoint0": ►</pre> <pre>fast transition enabled.</pre> <pre>(config-if)&gt; <b>no ft enable</b></pre> <pre>Network::Interface::Rtx::AccessPoint: "WifiMaster0/AccessPoint0": ►</pre> <pre>fast transition disabled.</pre>                                                                                                                                                                                                                                                             |         |             |      |                                                             |
| <b>History</b>         | <table border="1"> <thead> <tr> <th>Version</th><th>Description</th></tr> </thead> <tbody> <tr> <td>2.13</td><td>The <b>interface ft enable</b> command has been introduced.</td></tr> </tbody> </table>                                                                                                                                                                                                                                                                                                                                                                                      | Version | Description | 2.13 | The <b>interface ft enable</b> command has been introduced. |
| Version                | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |         |             |      |                                                             |
| 2.13                   | The <b>interface ft enable</b> command has been introduced.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |         |             |      |                                                             |

## 3.25.72 interface ft mdid

|                        |                                                                                                                                            |
|------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Description</b>     | <p>Set Mobility Domain ID for <i>FT</i>. By default, KN value is used.</p> <p>Command with <b>no</b> prefix resets setting to default.</p> |
| <b>Prefix no</b>       | Yes                                                                                                                                        |
| <b>Change settings</b> | Yes                                                                                                                                        |
| <b>Multiple input</b>  | No                                                                                                                                         |

**Interface type** AccessPoint

**Synopsis**

```
(config-if)> ft mdid <mdid>
(config-if)> no ft mdid
```

**Arguments**

| Argument | Value         | Description                                                   |
|----------|---------------|---------------------------------------------------------------|
| mdid     | <i>String</i> | The value of Mobility Domain ID. Consists of 2 ASCII symbols. |

**Example**

```
(config-if)> ft mdid 1F
Network::Interface::Rtx::AccessPoint: "WifiMaster0/AccessPoint0": ►
fast transition MDID set to "1F".

(config-if)> no ft mdid
Network::Interface::Rtx::AccessPoint: "WifiMaster0/AccessPoint0": ►
fast transition MDID reset to default.
```

**History**

| Version | Description                                               |
|---------|-----------------------------------------------------------|
| 2.13    | The <b>interface ft mdid</b> command has been introduced. |

## 3.25.73 interface ft otd

**Description** Enable support of *FT* Over-the-DS (Distribution System) within the IEEE 802.11r standard. This type of *FT* is used for roaming in outdated subscriber devices, for example, in the iPhone 4s. By default, the setting is disabled.

Command with **no** prefix removes the setting.

**Prefix no** Yes**Change settings** Yes**Multiple input** No**Interface type** AccessPoint

**Synopsis**

```
(config-if)> ft otd
(config-if)> no ft otd
```

**Example**

```
(config-if)> ft otd
Network::Interface::Rtx::AccessPoint: "WifiMaster0/AccessPoint0": ►
fast transition OTD enabled.

(config-if)> no ft otd
Network::Interface::Rtx::AccessPoint: "WifiMaster0/AccessPoint0": ►
fast transition OTD disabled.
```

| History | Version | Description                                              |
|---------|---------|----------------------------------------------------------|
|         | 2.13    | The <b>interface ft otd</b> command has been introduced. |

## 3.25.74 interface green-ethernet

**Description** Enable *Green Ethernet* mode on the interface. By default, this mode is disabled.  
Command with **no** prefix disables the setting.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Interface type** Ethernet

**Synopsis**

```
(config-if)> green-ethernet
(config-if)> no green-ethernet
```

**Example**

```
(config-if)> green-ethernet
Network::Interface::Ethernet: Green ethernet enabled.

(config-if)> no green-ethernet
Network::Interface::Ethernet: Green ethernet disabled.
```

| History | Version | Description                                                      |
|---------|---------|------------------------------------------------------------------|
|         | 3.05    | The <b>interface green-ethernet</b> command has been introduced. |

## 3.25.75 interface hide-ssid

**Description** Enable hidden *SSID* mode. When using this feature, Access Point will not be displayed in the list of available wireless networks. But if user informed of the existence of this network and know its *SSID*, than he can connect to it. The mode is disabled by default.

Command with **no** prefix disables the mode.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Interface type** Access Point

**Synopsis**

```
(config-if)> hide-ssid
```

```
(config-if)> no hide-ssid
```

**Example**

```
(config-if)> hide-ssid
Network::Interface::Rtx::AccessPoint: "WifiMaster0/AccessPoint0": ►
SSID broadcasting disabled.
```

```
(config-if)> no hide-ssid
Network::Interface::Rtx::AccessPoint: "WifiMaster0/AccessPoint0": ►
SSID broadcasting enabled.
```

**History**

| Version | Description                                                 |
|---------|-------------------------------------------------------------|
| 2.00    | The <b>interface hide-ssid</b> command has been introduced. |

## 3.25.76 interface iapp auto

**Description**

Generate *IAPP* key in automatic mode. To assign the key manually, use **interface iapp key** command.

**Prefix no**

No

**Change settings**

Yes

**Multiple input**

No

**Interface type**

Bridge

**Synopsis**

```
(config-if)> iapp auto
```

**Example**

```
(config-if)> iapp auto
Network::Interface::Rtx::Iapp: Bridge0 autoconfigured.
```

**History**

| Version | Description                                                 |
|---------|-------------------------------------------------------------|
| 3.03    | The <b>interface iapp auto</b> command has been introduced. |

## 3.25.77 interface iapp key

**Description**

Assign the *IAPP* Mobile Domain key for successful synchronization between Access Points where *FT* works (**interface ft enable** command). Access Points must belong to the same IP-subnet. By default, the key is not assigned.

Command with **no** prefix removes key value.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

No

**Interface type** Bridge

**Synopsis**

```
(config-if)> iapp key <key>
(config-if)> no iapp key
```

| Argument | Value         | Description                                                        |
|----------|---------------|--------------------------------------------------------------------|
| key      | <i>String</i> | The value of <i>IAPP</i> key. Maximum key length is 64 characters. |

**Example**

```
(config-if)> iapp key 11223344556677
Network::Interface::Rtx::Iapp: Bridge0 key applied.

(config-if)> no iapp key
Network::Interface::Rtx::Iapp: Bridge0 key cleared.
```

| Version | Description                                                |
|---------|------------------------------------------------------------|
| 2.13    | The <b>interface iapp key</b> command has been introduced. |

## 3.25.78 interface idle-timeout

**Description** Set the interval for the STA client to disconnect from the Access Point by inactivity timeout. By default, 600 value is used.

Command with **no** prefix disables the setting.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Interface type** WiFiMaster

**Synopsis**

```
(config-if)> idle-timeout <idle-timeout>
(config-if)> no idle-timeout
```

| Argument     | Value          | Description                                                                        |
|--------------|----------------|------------------------------------------------------------------------------------|
| idle-timeout | <i>Integer</i> | Idle-timeout value in seconds. Can take values in the range from 60 to 2147483646. |

**Example**

```
(config-if)> idle-timeout 500
Network::Interface::Rtx::WifiMaster: "WifiMaster1": idle timeout ►
value is 500 sec.
```

```
(config-if)> no idle-timeout
Network::Interface::Rtx::WifiMaster: "WifiMaster1": idle timeout ►
disabled.
```

**History**

| Version | Description                                                    |
|---------|----------------------------------------------------------------|
| 3.06    | The <b>interface idle-timeout</b> command has been introduced. |

## 3.25.79 interface igmp downstream

**Description** Enable *IGMP* mode on the interface in the direction of the multicast recipients. **service igmp-proxy** must be enabled on the device. There can be several downstream interfaces.

Command with **no** prefix disables the mode.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Interface type** IP

**Synopsis**

```
(config-if)> igmp downstream
(config-if)> no igmp downstream
```

**Example**

```
(config-if)> igmp downstream
(config-if)> no igmp downstream
```

**History**

| Version | Description                                                       |
|---------|-------------------------------------------------------------------|
| 2.00    | The <b>interface igmp downstream</b> command has been introduced. |

## 3.25.80 interface igmp fork

**Description** Enable the duplication of outgoing packets *IGMP* upstream to the specified interface. There can be only one fork interface.

Command with **no** prefix disables the mode.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

| <b>Interface type</b> | IP                                                                                                                                                                                                       |         |             |      |                                                             |
|-----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|-------------|------|-------------------------------------------------------------|
| <b>Synopsis</b>       | <pre>(config-if)&gt;  igmp fork</pre> <pre>(config-if)&gt; no igmp fork</pre>                                                                                                                            |         |             |      |                                                             |
| <b>Example</b>        | <pre>(config-if)&gt; igmp fork</pre> <pre>(config-if)&gt; no igmp fork</pre>                                                                                                                             |         |             |      |                                                             |
| <b>History</b>        | <table border="1"> <thead> <tr> <th>Version</th><th>Description</th></tr> </thead> <tbody> <tr> <td>2.00</td><td>The <b>interface igmp fork</b> command has been introduced.</td></tr> </tbody> </table> | Version | Description | 2.00 | The <b>interface igmp fork</b> command has been introduced. |
| Version               | Description                                                                                                                                                                                              |         |             |      |                                                             |
| 2.00                  | The <b>interface igmp fork</b> command has been introduced.                                                                                                                                              |         |             |      |                                                             |

## 3.25.81 interface igmp upstream

| <b>Description</b>     | <p>Enable <i>IGMP</i> mode on the interface in the direction of the multicast source. <b>service igmp-proxy</b> must be enabled on the device. Only one upstream interface is allowed.</p> <p>Command with <b>no</b> prefix disables the mode.</p> |         |             |      |                                                                 |
|------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|-------------|------|-----------------------------------------------------------------|
| <b>Prefix no</b>       | Yes                                                                                                                                                                                                                                                |         |             |      |                                                                 |
| <b>Change settings</b> | Yes                                                                                                                                                                                                                                                |         |             |      |                                                                 |
| <b>Multiple input</b>  | No                                                                                                                                                                                                                                                 |         |             |      |                                                                 |
| <b>Interface type</b>  | IP                                                                                                                                                                                                                                                 |         |             |      |                                                                 |
| <b>Synopsis</b>        | <pre>(config-if)&gt;  igmp upstream</pre> <pre>(config-if)&gt; no igmp upstream</pre>                                                                                                                                                              |         |             |      |                                                                 |
| <b>Example</b>         | <pre>(config-if)&gt; igmp upstream</pre> <pre>(config-if)&gt; no igmp upstream</pre>                                                                                                                                                               |         |             |      |                                                                 |
| <b>History</b>         | <table border="1"> <thead> <tr> <th>Version</th><th>Description</th></tr> </thead> <tbody> <tr> <td>2.00</td><td>The <b>interface igmp upstream</b> command has been introduced.</td></tr> </tbody> </table>                                       | Version | Description | 2.00 | The <b>interface igmp upstream</b> command has been introduced. |
| Version                | Description                                                                                                                                                                                                                                        |         |             |      |                                                                 |
| 2.00                   | The <b>interface igmp upstream</b> command has been introduced.                                                                                                                                                                                    |         |             |      |                                                                 |

## 3.25.82 interface include

|                    |                                                                                                                                                                          |
|--------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Description</b> | <p>Specify Ethernet-interface name which will be added to the software bridge as a port.</p> <p>Command with <b>no</b> prefix removes the interface from the bridge.</p> |
|--------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

**Prefix no** Yes**Change settings** Yes**Multiple input** Yes**Interface type** Bridge

**Synopsis**

```
(config-if)> include <interface>
```

```
(config-if)> no include <interface>
```

**Arguments**

| Argument  | Value            | Description                                                                     |
|-----------|------------------|---------------------------------------------------------------------------------|
| interface | <i>Interface</i> | Name or alias of the Ethernet-interface that should be plugged into the bridge. |

**Example**

```
(config-if)> include ISP
Network::Interface::Bridge: "Bridge0": ISP included.
```

```
(config-if)> no include
Network::Interface::Bridge: "Bridge0": removed ISP.
```

**History**

| Version | Description                                               |
|---------|-----------------------------------------------------------|
| 2.00    | The <b>interface include</b> command has been introduced. |

## 3.25.83 interface inherit

**Description**

Specify the name of the Ethernet-interface which will be added to the program bridge as a port. In contrast with the **include** command, **inherit** command transfers some settings of the interface being added to the bridge, such as IP address, mask and IP-aliases. On removing either the bridge itself or the bridge interface, these settings, even if they have been changed will be copied back to the vacant interface.

The command allows one to add the device control interface to the bridge so that control is not lost.

Command with **no** prefix removes the interface from the bridge, returns the settings that have earlier been inherited by the bridge back to the interface, and resets these settings on the bridge.

**Prefix no** Yes**Change settings** Yes**Multiple input** Yes**Interface type** Bridge



**Synopsis**

```
(config-if)> inherit <interface>
```

```
(config-if)> no inherit <interface>
```

**Arguments**

| Argument  | Value            | Description                                                                     |
|-----------|------------------|---------------------------------------------------------------------------------|
| interface | <i>Interface</i> | Name or alias of the Ethernet-interface that should be plugged into the bridge. |

**Example**

```
(config-if)> inherit GigabitEthernet0/Vlan3  
Network::Interface::Bridge: "Bridge1": GigabitEthernet0/Vlan3 ►  
inherited in Bridge1.
```

```
(config-if)> no inherit  
Network::Interface::Bridge: "Bridge1": inherit removed.
```

**History**

| Version | Description                                               |
|---------|-----------------------------------------------------------|
| 2.00    | The <b>interface inherit</b> command has been introduced. |

## 3.25.84 interface ip access-group

**Description**

Assign a named list of filtering rules ([ACL](#), see [access-list](#)) to the interface. Parameter *in* or *out* indicates the traffic direction for which the [ACL](#) will be applied. Several ACLs can be assigned to a single interface.

Command with **no** prefix disables the [ACL](#) for the specified interface and traffic direction.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

Yes

**Interface type**

IP

**Synopsis**

```
(config-if)> ip access-group <acl> <direction>
```

```
(config-if)> no ip access-group [ <acl> [ <direction> ] ]
```

**Arguments**

| Argument  | Value         | Description                                                                              |
|-----------|---------------|------------------------------------------------------------------------------------------|
| acl       | <i>String</i> | List of filtering rules as previously created using <a href="#">access-list</a> command. |
| direction | in            | Apply filtering to incoming packets.                                                     |
|           | out           | Apply filtering to outgoing packets.                                                     |

**Example**

```
(config-if)> ip access-group BLOCK in
Network::Acl: Input "BLOCK" access list added to "CdcEthernet1".
```

```
(config-if)> ip access-group BLOCK out
Network::Acl: Output "BLOCK" access list added to "CdcEthernet1".
```

```
(config-if)> no ip access-group BLOCK in
Network::Acl: "BLOCK" access group deleted from "CdcEthernet1".
```

```
(config-if)> no ip access-group
Network::Acl: All access groups deleted from "CdcEthernet1".
```

**History**

| Version | Description                                                       |
|---------|-------------------------------------------------------------------|
| 2.00    | The <b>interface ip access-group</b> command has been introduced. |

## 3.25.85 interface ip address

**Description**

Change the IP address and the mask of the network interface. If the address automatic configuration service is running on the interface, for instance, DHCP client, (see [interface ip address dhcp](#)), then the manually set address can be overwritten.

Command with **no** prefix resets the address to 0.0.0.0.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

No

**Interface type**

IP

**Synopsis**

```
(config-if)> ip address <address> <mask>
```

```
(config-if)> no ip address
```

**Arguments**

| Argument | Value             | Description                                                                                                                                                            |
|----------|-------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| address  | <i>IP address</i> | The network interface address.                                                                                                                                         |
| mask     | <i>IP-mask</i>    | The network interface mask. There are two ways to specify the mask: the canonical form (for example, 255.255.255.0) and the prefix with bit length (for example, /24). |

**Example**

The network address, defined by the IP address and mask, can specified in either of the two ways: specify a mask in the canonical form, or set the prefix bit length.

```
(config)> ip address 192.168.9.1/24
Network::Interface::Ip: "Bridge3": IP address is 192.168.9.1/24.
```

```
(config)> no ip address
Network::Interface::Ip: "Bridge3": IP address cleared.
```

**History**

| Version | Description                                                  |
|---------|--------------------------------------------------------------|
| 2.00    | The <b>interface ip address</b> command has been introduced. |

## 3.25.86 interface ip address dhcp

**Description**

Start the DHCP client to automatically configure the network parameters: IP address and mask of the interface, [DNS](#) servers and default gateway.

Command with **no** prefix stops the DHCP client, removes the dynamically configured settings and restores the previous settings of IP address and mask.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

No

**Interface type**

Ethernet

**Synopsis**

```
(config-if)> ip address dhcp
```

```
(config-if)> no ip address dhcp
```

**Example**

```
(config-if)> ip address dhcp
Dhcp::Client: Started DHCP client on ISP.
```

```
(config-if)> no ip address dhcp
Dhcp::Client: Stopped DHCP client on ISP.
```

**History**

| Version | Description                                                       |
|---------|-------------------------------------------------------------------|
| 2.00    | The <b>interface ip address dhcp</b> command has been introduced. |
| 4.02    | The optional argument hostname has been removed.                  |

## 3.25.87 interface ip adjust-ttl recv

**Description**

Modify the TTL for all inbound packets on the interface.

Command with **no** prefix cancels the setting.

**Prefix no**

Yes

**Change settings** Yes**Multiple input** No**Interface type** IP

**Synopsis**

```
(config-if)> ip adjust-ttl rcv <rcv>
```

```
(config-if)> no ip adjust-ttl rcv
```

**Arguments**

| Argument | Value          | Description                                                                        |
|----------|----------------|------------------------------------------------------------------------------------|
| rcv      | <i>Integer</i> | The value of TTL changing. Can take values in the range from 1 to 255 inclusively. |

**Example**

```
(config-if)> ip adjust-ttl rcv 1
```

Network::Interface::Ip: "CdcEthernet0": incoming TTL set to 1.

```
(config-if)> no ip adjust-ttl rcv
```

Network::Interface::Ip: "CdcEthernet0": incoming TTL settings ► removed.

**History**

| Version | Description                                                                                                                   |
|---------|-------------------------------------------------------------------------------------------------------------------------------|
| 3.07    | The <b>interface ip adjust-ttl rcv</b> command has been introduced. Previous command name is <b>interface ip adjust-ttl</b> . |

## 3.25.88 interface ip adjust-ttl send

**Description** Modify the TTL for all outbound packets on the interface.

Command with **no** prefix cancels the setting.

**Prefix no** Yes**Change settings** Yes**Multiple input** No**Interface type** IP

**Synopsis**

```
(config-if)> ip adjust-ttl send <send>
```

```
(config-if)> no ip adjust-ttl send
```

**Arguments**

| Argument | Value          | Description                                                                        |
|----------|----------------|------------------------------------------------------------------------------------|
| send     | <i>Integer</i> | The value of TTL changing. Can take values in the range from 1 to 255 inclusively. |

**Example**

```
(config-if)> ip adjust-ttl send 65
Network::Interface::Ip: "CdcEthernet1": outgoing TTL set to 65.
```

```
(config-if)> no ip adjust-ttl send
Network::Interface::Ip: "CdcEthernet1": outgoing TTL settings ►
removed.
```

**History**

| Version | Description                                                          |
|---------|----------------------------------------------------------------------|
| 2.09    | The <b>interface ip adjust-ttl send</b> command has been introduced. |

## 3.25.89 interface ip alias

**Description**

Assign an additional IP address and mask to the network interface (alias).

Command with **no** prefix resets the specified alias to 0.0.0.0. If you use no arguments, the entire list of aliases will be removed.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

Yes

**Interface type**

IP, Ethernet

**Synopsis**

```
(config-if)> ip alias <address> <mask>
```

```
(config-if)> no ip alias [ <address> <mask> ]
```

**Arguments**

| Argument | Value             | Description                                                                                                                                                                          |
|----------|-------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| address  | <i>IP address</i> | Additional address of the network interface.                                                                                                                                         |
| mask     | <i>IP-mask</i>    | Additional mask of the network interface. There are two ways to specify the mask: the canonical form (for example, 255.255.255.0) and the prefix with bit length (for example, /24). |

**Example**

```
(config-if)> ip alias 192.168.1.88/24
Network::Interface::Ip: "WifiMaster1/WifiStation0": alias 0 is ►
192.168.1.88/24.
```

```
(config-if)> no ip alias 192.168.1.88/24
Network::Interface::Ip: "WifiMaster1/WifiStation0": alias 0 reset ►
to 0.0.0.0/0.
```

```
(config-if)> no ip alias
Network::Interface::Ip: "WifiMaster1/WifiStation0": all aliases ►
removed.
```

**History**

| Version | Description                                                |
|---------|------------------------------------------------------------|
| 2.00    | The <b>interface ip alias</b> command has been introduced. |

## 3.25.90 interface ip dhcp client broadcast

**Description**

Set broadcast bit in the DHCP Discover messages, that indicate to a server how the reply should be sent back to the client. By default, the setting is disabled.

Command with **no** prefix removes the setting.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

No

**Interface type**

Ethernet

**Synopsis**

```
(config-if)> ip dhcp client broadcast
```

```
(config-if)> no ip dhcp client broadcast
```

**Example**

```
(config-if)> ip dhcp client broadcast
Dhcp::Client: ISP DHCP client request broadcast enabled.
```

```
(config-if)> no ip dhcp client broadcast
Dhcp::Client: ISP DHCP client request broadcast disabled.
```

**History**

| Version | Description                                                                |
|---------|----------------------------------------------------------------------------|
| 2.15    | The <b>interface ip dhcp client broadcast</b> command has been introduced. |

## 3.25.91 interface ip dhcp client class-id

**Description**

Specify the device vendor name where *DHCP* client is running (dhcp option 60).

Command with **no** prefix removes the setting.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

No

**Interface type**

Ethernet

**Synopsis**

```
(config-if)> ip dhcp client class-id <class>
```

```
(config-if)> no ip dhcp client class-id
```

**Arguments**

| Argument | Value         | Description                                   |
|----------|---------------|-----------------------------------------------|
| class    | <i>String</i> | Vendor class name, enclosed in double quotes. |

**Example**

```
(config-if)> ip dhcp client class-id "Sprinter"
Dhcp::Client: ISP DHCP client vendor class is set to "Sprinter".
```

```
(config-if)> no ip dhcp client class-id
Dhcp::Client: ISP DHCP client vendor class is cleared.
```

**History**

| Version | Description                                                               |
|---------|---------------------------------------------------------------------------|
| 2.02    | The <b>interface ip dhcp client class-id</b> command has been introduced. |

## 3.25.92 interface ip dhcp client debug

**Description**

Enable debug mode for DHCP client. Detailed info about DHCP client working is saved to the system log.

Command with **no** prefix disables the debug mode.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

No

**Interface type**

Ethernet

**Synopsis**

```
(config-if)> ip dhcp client debug
```

```
(config-if)> no ip dhcp client debug
```

**Example**

```
(config-if)> ip dhcp client debug
Dhcp::Client: ISP DHCP client debug enabled.
```

```
(config-if)> no ip dhcp client debug
Dhcp::Client: ISP DHCP client debug disabled.
```

**History**

| Version | Description                                                            |
|---------|------------------------------------------------------------------------|
| 2.01    | The <b>interface ip dhcp client debug</b> command has been introduced. |

## 3.25.93 interface ip dhcp client displace

**Description** Displace static address of *what* if it conflicts with an address from DHCP client of main interface.

This command is executed automatically when you connect the USB Ethernet adapter. After that the configuration will be saved and device will be restarted.

Command with **no** prefix cancels the displacement for the specified interface.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** Yes

**Interface type** Ethernet

**Synopsis**

```
(config-if)> ip dhcp client displace <what> [ check-session ]
(config-if)> no ip dhcp client displace <what> [ check-session ]
```

**Arguments**

| Argument      | Value            | Description                                                                                                                                       |
|---------------|------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| what          | <i>Interface</i> | Name or alias of the interface whose static address will be displaced.                                                                            |
| check-session | <i>Keyword</i>   | With active SCGI sessions, it does not allow rebooting and changing the router's network address. By default, command is added to default-config. |

**Example**

```
(config-if)> ip dhcp client displace Home
Dhcp::Client: ISP added "Home" displacement.
```

```
(config-if)> ip dhcp client displace Home check-session
Dhcp::Client: ISP added "Home" displacement.
```

```
(config-if)> no ip dhcp client displace Home
Dhcp::Client: ISP deleted "Home" displacement.
```

```
(config-if)> no ip dhcp client displace Home check-session
Dhcp::Client: ISP deleted "Home" displacement.
```

**History**

| Version | Description                                                               |
|---------|---------------------------------------------------------------------------|
| 2.03    | The <b>interface ip dhcp client displace</b> command has been introduced. |
| 2.15    | Argument check-session was added.                                         |



### 3.25.94 interface ip dhcp client dns-routes

**Description** Enable automatic addition of host routes to the DNS server received from the DHCP server. By default, the setting is enabled.

Command with **no** prefix disables the setting.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Interface type** Ethernet

**Synopsis**

```
(config-if)> ip dhcp client dns-routes
(config-if)> no ip dhcp client dns-routes
```

**Example**

```
(config-if)> ip dhcp client dns-routes
Dhcp::Client: ISP DHCP client DNS host routes are enabled.
```

```
(config-if)> no ip dhcp client dns-routes
Dhcp::Client: ISP DHCP client DNS host routes are disabled.
```

**History**

| Version | Description                                                                 |
|---------|-----------------------------------------------------------------------------|
| 2.00    | The <b>interface ip dhcp client dns-routes</b> command has been introduced. |

### 3.25.95 interface ip dhcp client fallback

**Description** Set static IP address in case of DHCP errors.

Command with **no** prefix cancels setting and sets 0.0.0.0 address.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Interface type** Ethernet

**Synopsis**

```
(config-if)> ip dhcp client fallback <type>
(config-if)> no ip dhcp client fallback
```

**Arguments**

| Argument | Value         | Description                                                           |
|----------|---------------|-----------------------------------------------------------------------|
| type     | <i>String</i> | The type of IP address. Currently implemented only one type — static. |

**Example**

```
(config-if)> ip dhcp client fallback static
Dhcp::Client: A DHCP address fallback is static.
```

```
(config-if)> no ip dhcp client fallback
Dhcp::Client: A DHCP address fallback set to zero for "ISP".
```

**History**

| Version | Description                                                               |
|---------|---------------------------------------------------------------------------|
| 2.05    | The <b>interface ip dhcp client fallback</b> command has been introduced. |

## 3.25.96 interface ip dhcp client hostname

**Description**

Assign a host name which is sent in DHCP-request.

Command with **no** prefix resets the host name to default.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

No

**Interface type**

Ethernet

**Synopsis**

```
(config-if)> ip dhcp client hostname <hostname>
```

```
(config-if)> no ip dhcp client hostname
```

**Arguments**

| Argument | Value         | Description              |
|----------|---------------|--------------------------|
| hostname | <i>String</i> | The host name to assign. |

**Example**

```
(config-if)> ip dhcp client hostname MYHOME
Dhcp::Client: ISP DHCP client hostname is set to MYHOME.
```

```
(config-if)> no ip dhcp client hostname
Dhcp::Client: ISP DHCP client hostname is reset to default (HOME).
```

**History**

| Version | Description                                                               |
|---------|---------------------------------------------------------------------------|
| 2.00    | The <b>interface ip dhcp client hostname</b> command has been introduced. |

## 3.25.97 interface ip dhcp client name-servers

**Description**

Use [DNS](#) server addresses which are received via [DHCP](#). By default, the function is enabled.

Command with **no** prefix denies using of *DNS* server addresses which are received via *DHCP*.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Interface type** Ethernet

**Synopsis**

```
(config-if)> ip dhcp client name-servers
(config-if)> no ip dhcp client name-servers
```

**Example**

```
(config-if)> ip dhcp client name-servers
Dhcp::Client: ISP DHCP name servers are enabled.

(config-if)> no ip dhcp client name-servers
Dhcp::Client: ISP DHCP name servers are disabled.
```

**History**

| Version | Description                                                                   |
|---------|-------------------------------------------------------------------------------|
| 2.00    | The <b>interface ip dhcp client name-servers</b> command has been introduced. |

## 3.25.98 interface ip dhcp client release

**Description** DHCP client releases lease IP address and goes into sleep mode. Another execution of this command takes DHCP client to the mode of automatical obtaining of IP address.

**Prefix no** No

**Change settings** Yes

**Multiple input** No

**Interface type** Ethernet

**Synopsis**

```
(config-if)> ip dhcp client release
```

**Example**

```
(config-if)> ip dhcp client release
Dhcp::Client: IP address released.
```

**History**

| Version | Description                                                              |
|---------|--------------------------------------------------------------------------|
| 2.03    | The <b>interface ip dhcp client release</b> command has been introduced. |

## 3.25.99 interface ip dhcp client renew

**Description** DHCP client releases lease IP address and passes in a mode of obtaining a new one.

**Prefix no** No

**Change settings** Yes

**Multiple input** No

**Interface type** Ethernet

**Synopsis** (config-if)> **ip dhcp client renew**

**Example** (config-if)> **ip dhcp client renew**  
Dhcp::Client: IP address renewed.

**History**

| Version | Description                                                            |
|---------|------------------------------------------------------------------------|
| 2.03    | The <b>interface ip dhcp client renew</b> command has been introduced. |

## 3.25.100 interface ip dhcp client routes

**Description** Enable receiving routes from the provider (dhcp options 33, 121, 242). By default it is enabled. In the configuration it is displayed only with **no** prefix.

Command with **no** prefix disables the setting.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Interface type** Ethernet

**Synopsis** (config-if)> **ip dhcp client routes**

(config-if)> **no ip dhcp client routes**

**Example** (config-if)> **ip dhcp client routes**  
Dhcp::Client: ISP DHCP client static routes are enabled.

(config-if)> **no ip dhcp client routes**  
Dhcp::Client: ISP DHCP client static routes are disabled.

**History**

| Version | Description                                                             |
|---------|-------------------------------------------------------------------------|
| 2.05    | The <b>interface ip dhcp client routes</b> command has been introduced. |

## 3.25.101 interface ip flow

**Description**

Enable *NetFlow* sensor on the specified interface. By default, the setting is disabled.

Command with **no** prefix disables *NetFlow* sensor.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

No

**Interface type**

IP

**Synopsis**

```
(config-if)> ip flow <direction>
```

```
(config-if)> no ip flow
```

**Arguments**

| Argument  | Value   | Description                                       |
|-----------|---------|---------------------------------------------------|
| direction | ingress | Collection of incoming traffic.                   |
|           | egress  | Collection of outgoing traffic.                   |
|           | both    | Collection of incoming and outgoing traffic both. |

**Example**

```
(config-if)> ip flow ingress
Netflow::Manager: NetFlow collector is enabled on interface ►
"Home" in "ingress" direction.
```

```
(config-if)> ip flow egress
Netflow::Manager: NetFlow collector is enabled on interface ►
"Home" in "egress" direction.
```

```
(config-if)> ip flow both
Netflow::Manager: NetFlow collector is enabled on interface ►
"Home" in "both" direction.
```

**History**

| Version | Description                                               |
|---------|-----------------------------------------------------------|
| 2.11    | The <b>interface ip flow</b> command has been introduced. |

## 3.25.102 interface ip global

### Description

Set property “global” with a parameter to the interface. This property is necessary to configure the default route, DynDNS client and NAT functioning. Can represent global-interfaces as leading to the global network (the Internet).

Property “global” affects the interface priority in setting the default route. The higher the priority the more desirable it is for the user to access the global network through the specified interface. Internet access backup (WAN backup) functionality is using priority “global”.

By default, setting is disabled.

Command with **no** prefix removes property.

### Prefix no

Yes

### Change settings

Yes

### Multiple input

No

### Interface type

IP

### Synopsis

```
(config-if)> ip global (<priority> | order <order> | auto)
```

```
(config-if)> no ip global
```

### Arguments

| Argument | Value          | Description                                                                                                                               |
|----------|----------------|-------------------------------------------------------------------------------------------------------------------------------------------|
| priority | <i>Integer</i> | Interface priority to configure the default route. Can take values in the range from 1 to 65534.                                          |
| order    | <i>Integer</i> | Relative priority between interfaces. It can take values in the range from 0 to 65534, but not more than the number of global interfaces. |
| auto     | <i>Keyword</i> | Automatic priority calculation of the interface. The interface is located near the end of the list, but above order X.                    |

### Example

```
(config-if)> ip global 10  
Network::Interface::IP: "L2TP0": global priority is 10.
```

```
(config-if)> ip global order 0  
Network::Interface::IP: "L2TP0": order is 1.
```

```
(config-if)> ip global auto  
Network::Interface::IP: Global priority recalculated.
```

```
(config-if)> no ip global  
Network::Interface::IP: "L2TP0": global priority cleared.
```

**History**

| Version | Description                                                 |
|---------|-------------------------------------------------------------|
| 2.00    | The <b>interface ip global</b> command has been introduced. |
| 2.09    | The order and auto arguments were added.                    |

## 3.25.103 interface ip mru

**Description**

Set the value of *MRU* to be transmitted to a remote node during establishing the *PPP* (*IPCP*) connection. By default, 1460 value is used.

Command with **no** prefix resets the *MRU* value to default.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

No

**Interface type**

PPP

**Synopsis**

```
(config-if)> ip mru <mru>
```

```
(config-if)> no ip mru
```

**Arguments**

| Argument | Value          | Description       |
|----------|----------------|-------------------|
| mru      | <i>Integer</i> | <i>MRU</i> value. |

**Example**

```
(config-if)> ip mru 1492
Network::Interface::Ppp: "PPPoE0": MRU saved.
```

```
(config-if)> no ip mru
Network::Interface::Ppp: "PPPoE0": MRU reset to default.
```

**History**

| Version | Description                                              |
|---------|----------------------------------------------------------|
| 2.00    | The <b>interface ip mru</b> command has been introduced. |

## 3.25.104 interface ip mtu

**Description**

Set the *MTU* value on the network interface. When establishing a connection via *PPP* (*IPCP*), packets with defined *MTU* size will be sent to the remote host, even if the host requested a lower *MTU* value.

Command with **no** prefix resets the *MTU* value to that which was before the first use of the command.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input** No**Interface type** IP

**Synopsis**

```
(config-if)> ip mtu <mtu>
```

```
(config-if)> no ip mtu
```

**Arguments**

| Argument | Value          | Description                                                                  |
|----------|----------------|------------------------------------------------------------------------------|
| mtu      | <i>Integer</i> | <i>MTU</i> value. Can take values in the range from 64 to 65535 inclusively. |

**Example**

```
(config-if)> ip mtu 1500
Network::Interface::Base: "GigabitEthernet1": static MTU is 1500.
```

```
(config-if)> no ip mtu
Network::Interface::Base: "GigabitEthernet1": static MTU reset ►
to default.
```

**History**

| Version | Description                                              |
|---------|----------------------------------------------------------|
| 2.00    | The <b>interface ip mtu</b> command has been introduced. |

## 3.25.105 interface ip name-servers

**Description** Enable the use of *DNS* server addresses on the interface. By default, the function is enabled.

Command with **no** prefix denies using of *DNS* server addresses on the interface.

**Prefix no** Yes**Change settings** Yes**Multiple input** No**Interface type** IP

**Synopsis**

```
(config-if)> ip name-servers
```

```
(config-if)> no ip name-servers
```

**Example**

```
(config-if)> ip name-servers
Dns::InterfaceSpecific: "GigabitEthernet1": accept IPv4 name ►
servers.
```

```
(config-if)> no ip name-servers
Dns::InterfaceSpecific: "GigabitEthernet1": ignore IPv4 name ►
servers.
```



| History | Version | Description                                                       |
|---------|---------|-------------------------------------------------------------------|
|         | 4.00    | The <b>interface ip name-servers</b> command has been introduced. |

## 3.25.106 interface ip nat loopback

**Description** Enable reverse translation to send local requests to the local server from the Internet. By default, the setting is enabled for the Home segment interfaces (private and protected security levels).

Command with **no** prefix disables NAT loopback.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Interface type** IP

**Synopsis**

```
(config-if)> ip nat loopback
(config-if)> no ip nat loopback
```

**Example**

```
(config-if)> ip nat loopback
Network::StaticNat: NAT loopback is explicitly enabled on "Home".

(config-if)> no ip nat loopback
Network::StaticNat: NAT loopback is explicitly disabled on "Home".
```

| History | Version | Description                                             |
|---------|---------|---------------------------------------------------------|
|         | 2.11    | The <b>ip nat loopback</b> command has been introduced. |

## 3.25.107 interface ip remote

**Description** Set a remote peer static address.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Interface type** PPP

**Synopsis**

```
(config-if)> ip remote <address>
(config-if)> no ip remote
```

**Arguments**

| Argument | Value             | Description            |
|----------|-------------------|------------------------|
| address  | <i>IP address</i> | A remote peer address. |

**Example**

```
(config-if)> ip remote 192.168.2.19
Network::Interface::Ppp: "L2TP0": remote address saved.
```

```
(config-if)> no ip remote
Network::Interface::Ppp: "L2TP0": remote address erased.
```

**History**

| Version | Description                                                 |
|---------|-------------------------------------------------------------|
| 2.00    | The <b>interface ip remote</b> command has been introduced. |

## 3.25.108 interface ip tcp adjust-mss

**Description**

Set the limit on the segment size of outgoing [TCP](#) sessions. If the [MSS](#) value, which is transmitted in the header of SYN-packets, exceeds the specified limit, command changes it. The command is applied to the interface and affects all outgoing [TCP](#) SYN packets.

Command with **no** prefix removes all limits from [MSS](#).

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

No

**Interface type**

IP

**Synopsis**

```
(config-if)> ip tcp adjust-mss (pmtu | <mss> )
```

```
(config-if)> no ip tcp adjust-mss
```

**Arguments**

| Argument | Value          | Description                                                                                                              |
|----------|----------------|--------------------------------------------------------------------------------------------------------------------------|
| pmtu     | <i>Keyword</i> | Set the upper limit of <a href="#">MSS</a> , equal to the minimum <a href="#">MTU</a> along the path to the remote peer. |
| mss      | <i>Integer</i> | <a href="#">MSS</a> upper limit.                                                                                         |

**Example**

```
(config-if)> ip tcp adjust-mss pmtu
Network::Interface::Ip: "L2TP0": TCP-MSS adjustment enabled.
```

```
(config-if)> ip tcp adjust-mss 1300
Network::Interface::Ip: "L2TP0": TCP-MSS adjustment enabled.
```

```
(config-if)> no ip tcp adjust-mss
Network::Interface::Ip: "L2TP0": TCP-MSS adjustment disabled.
```

| History | Version | Description                                                         |
|---------|---------|---------------------------------------------------------------------|
|         | 2.00    | The <b>interface ip tcp adjust-mss</b> command has been introduced. |

### 3.25.109 interface ipcp address

**Description** Use address from the remote peer.  
Command with **no** prefix disables the setting.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Interface type** PPP

**Synopsis**

```
(config-if)> ipcp address
(config-if)> no ipcp address
```

**Example**

```
(config-if)> ipcp address
using address from remote peer

(config-if)> no ipcp address
not using address from remote peer
```

| History | Version | Description                                                    |
|---------|---------|----------------------------------------------------------------|
|         | 3.09    | The <b>interface ipcp address</b> command has been introduced. |

### 3.25.110 interface ipcp default-route

**Description** Use the remote peer address as default gateway. By default, the setting is enabled.

Command with **no** prefix denies default gateway changing.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Interface type** PPP

**Synopsis**

```
(config-if)> ipcp default-route
```

```
(config-if)> no ipcp default-route
```

**Example**

```
(config-if)> ipcp default-route
Using peer as a default gateway.
```

**History**

| Version | Description                                                          |
|---------|----------------------------------------------------------------------|
| 2.00    | The <b>interface ipcp default-route</b> command has been introduced. |

## 3.25.111 interface ipcp dns-routes

**Description**

Use routes which are received via *IPCP*. By default, the setting is enabled.

Command with **no** prefix removes the setting.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

No

**Interface type**

PPP

**Synopsis**

```
(config-if)> ipcp dns-routes
```

```
(config-if)> no ipcp dns-routes
```

**Example**

```
(config-if)> ipcp dns-routes
DNS routes enabled
```

```
(config-if)> no ipcp dns-routes
DNS routes disabled
```

**History**

| Version | Description                                                       |
|---------|-------------------------------------------------------------------|
| 2.02    | The <b>interface ipcp dns-routes</b> command has been introduced. |

## 3.25.112 interface ipcp name-servers

**Description**

Use *DNS* servers addresses which are received via *IPCP*. By default, the setting is enabled.

Command with **no** prefix removes the setting.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input** No

**Interface type** PPP

**Synopsis**

```
(config-if)> ipcp name-servers
(config-if)> no ipcp name-servers
```

**Example**

```
(config-if)> ipcp name-servers
using remote name servers.
```

```
(config-if)> no ipcp name-servers
not using remote name servers.
```

#### History

| Version | Description                                                         |
|---------|---------------------------------------------------------------------|
| 2.00    | The <b>interface ipcp name-servers</b> command has been introduced. |

## 3.25.113 interface ipcp vj

**Description** Enable compression of TCP/IP headers by Van Jacobson's method. By default, the setting is disabled.

Command with **no** prefix disables compression.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Interface type** PPP

**Synopsis**

```
(config-if)> ipcp vj [cid]
(config-if)> no ipcp vj
```

#### Arguments

| Argument | Value          | Description                                       |
|----------|----------------|---------------------------------------------------|
| cid      | <i>Keyword</i> | Enable compression of Connection ID into headers. |

**Example**

```
(config-if)> ipcp vj cid
VJ compression enabled.
```

```
(config-if)> no ipcp vj
VJ compression disabled.
```

**History**

| Version | Description                                               |
|---------|-----------------------------------------------------------|
| 2.03    | The <b>interface ipcp vj</b> command has been introduced. |

## 3.25.114 interface ipsec aggressive

**Description**

Enable aggressive IKEv1 mode for compatibility with FritzBox L2TP/IPsec server.

Command with **no** prefix disables the mode.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

No

**Interface type**

Secure

**Synopsis**

```
(config-if)> ipsec aggressive
```

```
(config-if)> no ipsec aggressive
```

**Example**

```
(config-if)> ipsec aggressive  
Network::Interface::Secure: IKEv1 Aggressive Mode is enabled.
```

```
(config-if)> no ipsec aggressive  
Network::Interface::Secure: IKEv1 Aggressive Mode is disabled.
```

**History**

| Version | Description                                                        |
|---------|--------------------------------------------------------------------|
| 4.02    | The <b>interface ipsec aggressive</b> command has been introduced. |

## 3.25.115 interface ipsec encryption-level

**Description**

Set encryption level for *IPSec* connection that is automatically associated with the tunnel. By default, the normal value is used.

A detailed description of each level is given in the [Appendix](#).

Command with **no** prefix resets encryption level to default.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

No

**Interface type**

Secure

**Synopsis**

```
(config-if)> ipsec encryption-level <level>
```

```
(config-if)> no ipsec encryption-level
```

**Arguments**

| Argument | Value           | Description                                                                                                                                   |
|----------|-----------------|-----------------------------------------------------------------------------------------------------------------------------------------------|
| level    | weak            | Weak level, DES and MD5 algorithms enabled.                                                                                                   |
|          | normal          | Level is compatible with most systems, priority is given to AES128 and SHA1.                                                                  |
|          | normal-3des     | Level is compatible with most systems, priority is given to 3DES and SHA1.                                                                    |
|          | strong          | The strongest level, <a href="#">PFS</a> is mandatory, priority is given to AES256 and SHA1.                                                  |
|          | weak-pfs        | The same as weak, but for the second phase <a href="#">PFS</a> group 1 and 2 is enabled.                                                      |
|          | normal-pfs      | The same as normal, but for the second phase <a href="#">PFS</a> group 2 and 5 is enabled.                                                    |
|          | normal-3des-pfs | The same as normal-3des, but for the second phase <a href="#">PFS</a> group 5 and 14 is enabled.                                              |
|          | high            | A set of modern algorithms for external providers of VPN services.                                                                            |
|          | strong-aead     | The strongest level, priority is given to AES256 and SHA1 with addition of <a href="#">AEAD</a> algorithms.                                   |
|          | strong-aead-pfs | The strongest level, <a href="#">PFS</a> is mandatory, priority is given to AES256 and SHA1 with addition of <a href="#">AEAD</a> algorithms. |

**Example**

```
(config-if)> ipsec encryption-level high
Network::Interface::Secure: "IKE0": security level is set to ►
"high".
```

```
(config-if)> no ipsec encryption-level
Network::Interface::Secure: "IKE0": security level was reset.
```

**History**

| Version | Description                                                                      |
|---------|----------------------------------------------------------------------------------|
| 2.08    | The <b>interface ipsec encryption-level</b> command has been introduced.         |
| 3.07    | New levels of encryption has been added — high, strong-aead and strong-aead-pfs. |

## 3.25.116 interface ipsec force-encaps

**Description**

Enable support of [ESP](#) forced encapsulation in [UDP](#) for client tunnels. By default, the feature is disabled.

Command with **no** prefix cancels the setting.

**Prefix no** Yes**Change settings** Yes**Multiple input** No**Interface type** Secure

**Synopsis**

```
(config-if)> ipsec force-encaps
```

```
(config-if)> no ipsec force-encaps
```

**Example**

```
(config-if)> ipsec force-encaps
Network::Interface::Secure: Force ESP in UDP encapsulation ►
enabled.
```

```
(config-if)> no ipsec force-encaps
Network::Interface::Secure: Force ESP in UDP encapsulation ►
disabled.
```

**History**

| Version | Description                                                          |
|---------|----------------------------------------------------------------------|
| 2.12    | The <b>interface ipsec force-encaps</b> command has been introduced. |

## 3.25.117 interface ipsec ignore

**Description** Disable processing incoming *IKE* packets for *IPSec* service on the interface. By default the command is disabled.

Command with **no** prefix cancels the setting.

**Prefix no** Yes**Change settings** Yes**Multiple input** No**Interface type** Secure

**Synopsis**

```
(config-if)> ipsec ignore
```

```
(config-if)> no ipsec ignore
```

**Example**

```
(config-if)> ipsec ignore
IpSec::Manager: Interface "Gre0" added to IPsec ignore list.
```

```
(config-if)> no ipsec ignore
IpSec::Manager: Interface "Gre0" removed from IPsec ignore list.
```



**History**

| Version | Description                                                    |
|---------|----------------------------------------------------------------|
| 2.10    | The <b>interface ipsec ignore</b> command has been introduced. |

## 3.25.118 interface ipsec ikev2

**Description**

Enable IKEv2 protocol for *IPSec* connection that is automatically associated with the tunnel. By default, IKEv1 is used.

Command with **no** prefix resets setting to default.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

No

**Interface type**

Secure

**Synopsis**

```
(config-if)> ipsec ikev2
```

```
(config-if)> no ipsec ikev2
```

**Example**

```
(config-if)> ipsec ikev2
Network::Interface::Secure: IKEv2 is enabled.
```

```
(config-if)> no ipsec ikev2
Network::Interface::Secure: IKEv2 is disabled, enable IKEv1.
```

**History**

| Version | Description                                                   |
|---------|---------------------------------------------------------------|
| 2.10    | The <b>interface ipsec ikev2</b> command has been introduced. |

## 3.25.119 interface ipsec nail-up

**Description**

Enable automatic changes of the secret keys for L2TP/IPsec, EoIP/IPsec, Gre/IPsec, IPIP/IPsec tunnels. By default, setting is enabled.

Command with **no** prefix disables the setting.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

No

**Interface type**

Secure

**Synopsis**

```
(config-if)> ipsec nail-up
```

```
(config-if)> no ipsec nail-up
```

**Example**

```
(config-if)> ipsec nail-up
Network::Interface::Secure: SA renegotiation enabled.
```

```
(config-if)> no ipsec nail-up
Network::Interface::Secure: SA renegotiation disabled.
```

**History**

| Version | Description                                                     |
|---------|-----------------------------------------------------------------|
| 2.12    | The <b>interface ipsec nail-up</b> command has been introduced. |

## 3.25.120 interface ipsec name-servers

**Description**

Use [DNS](#) server addresses which are received via IKEv1 or IKEv2 [IPSec](#) server. By default, the function is enabled.

Command with **no** prefix denies using of [DNS](#) server addresses which are received via IKEv1 and IKEv2 [IPSec](#) server.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

No

**Interface type**

Secure

**Synopsis**

```
(config-if)> ipsec name-servers
```

```
(config-if)> no ipsec name-servers
```

**Example**

```
(config-if)> ipsec name-servers
IpSec::Interface::Ike: "IKE0": automatic name servers via IKE ►
Configuration Payload are enabled.
```

```
(config-if)> no ipsec name-servers
IpSec::Interface::Ike: "IKE0": automatic name servers via IKE ►
Configuration Payload are disabled.
```

**History**

| Version | Description                                                          |
|---------|----------------------------------------------------------------------|
| 3.06    | The <b>interface ipsec name-servers</b> command has been introduced. |

### 3.25.121 interface ipsec preshared-key

**Description** Set PSK key for *IPSec* connection that is automatically associated with the tunnel. Command also enables *IPSec* for this tunnel.

Command with **no** prefix resets the key.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Interface type** Secure

**Synopsis**

```
(config-if)> ipsec preshared-key <key>
(config-if)> no ipsec preshared-key
```

**Arguments**

| Argument | Value         | Description                                                                                                                             |
|----------|---------------|-----------------------------------------------------------------------------------------------------------------------------------------|
| key      | <i>String</i> | Secret PSK key value. Latin letters, numbers and equal signs are acceptable. The key length should be between 3 and 72 characters long. |

**Example**

```
(config-if)> ipsec preshared-key gbp1gW3pBQK.g=
Network::Interface::Secure: "L2TP0": preshared key was set.
```

```
(config-if)> no ipsec preshared-key
Network::Interface::Secure: "L2TP0": preshared key was reset.
```

**History**

| Version | Description                                                           |
|---------|-----------------------------------------------------------------------|
| 2.08    | The <b>interface ipsec preshared-key</b> command has been introduced. |

### 3.25.122 interface ipsec proposal lifetime

**Description** Set lifetime of *IPSec* transformation Phase1 on the interface. By default, the value 28800 is used.

Command with **no** prefix resets setting to default.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Interface type** Secure

**Synopsis**

```
(config-if)> ipsec proposal lifetime <lifetime>
```

```
(config-if)> no ipsec proposal lifetime
```

**Arguments**

| Argument | Value          | Description                                                                                             |
|----------|----------------|---------------------------------------------------------------------------------------------------------|
| lifetime | <i>Integer</i> | Lifetime of <i>IPSec</i> transformation in seconds. Can take values in the range from 60 to 2147483647. |

**Example**

```
(config-if)> ipsec proposal lifetime 222222
Network::Interface::Secure: IPsec IKE proposal lifetime set to ►
222222 s.
```

```
(config-if)> no ipsec proposal lifetime
Network::Interface::Secure: IPsec IKE proposal lifetime reset ►
to 28800 s.
```

**History**

| Version | Description                                                               |
|---------|---------------------------------------------------------------------------|
| 2.11    | The interface <b>ipsec proposal lifetime</b> command has been introduced. |

## 3.25.123 interface ipsec proposal local-id

**Description**

Set custom local identifier for *IKE*.

Command with **no** prefix removes the setting.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

No

**Interface type**

Secure

**Synopsis**

```
(config-if)> ipsec proposal local-id <local-id>
```

```
(config-if)> no ipsec proposal local-id
```

**Arguments**

| Argument | Value         | Description                              |
|----------|---------------|------------------------------------------|
| local-id | <i>String</i> | IP address or domain name of local host. |

**Example**

```
(config-if)> ipsec proposal local-id 192.168.8.4
Network::Interface::Secure: Set IKE local ID to "192.168.8.4".
```

```
(config-if)> no ipsec proposal local-id
Network::Interface::Secure: Reset IKE local ID.
```

**History**

| Version | Description                                                               |
|---------|---------------------------------------------------------------------------|
| 3.08    | The <b>interface ipsec proposal local-id</b> command has been introduced. |

## 3.25.124 interface ipsec proposal remote-id

**Description**

Set custom remote identifier for *IKE*.

Command with **no** prefix removes the setting.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

No

**Interface type**

Secure

**Synopsis**

```
(config-if)> ipsec proposal remote-id <remote-id>
```

```
(config-if)> no ipsec proposal remote-id
```

**Arguments**

| Argument  | Value         | Description                               |
|-----------|---------------|-------------------------------------------|
| remote-id | <i>String</i> | IP address or domain name of remote host. |

**Example**

```
(config-if)> ipsec proposal remote-id my.domain.com
Network::Interface::Secure: Set IKE remote ID to "my.domain.com".
```

```
(config-if)> no ipsec proposal remote-id
Network::Interface::Secure: Reset IKE remote ID.
```

**History**

| Version | Description                                                                |
|---------|----------------------------------------------------------------------------|
| 3.08    | The <b>interface ipsec proposal remote-id</b> command has been introduced. |

## 3.25.125 interface ipsec transform-set lifetime

**Description**

Set lifetime of *IPSec* transformation Phase2 on the interface. By default, the value 28800 is used.

Command with **no** prefix resets setting to default.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

No

**Interface type** Secure**Synopsis**`(config-if)> ipsec transform-set lifetime <lifetime>``(config-if)> no ipsec transform-set lifetime`**Arguments**

| Argument | Value          | Description                                                                                             |
|----------|----------------|---------------------------------------------------------------------------------------------------------|
| lifetime | <i>Integer</i> | Lifetime of <i>IPSec</i> transformation in seconds. Can take values in the range from 60 to 2147483647. |

**Example**

```
(config-if)> ipsec transform-set lifetime 222222
Network::Interface::Secure: IPsec ESP transform-set lifetime set ►
to 222222 s.
```

```
(config-if)> no ipsec transform-set lifetime
Network::Interface::Secure: IPsec ESP transform-set lifetime ►
reset to 28800 s.
```

**History**

| Version | Description                                                                    |
|---------|--------------------------------------------------------------------------------|
| 2.11    | The <b>interface ipsec transform-set lifetime</b> command has been introduced. |

## 3.25.126 interface ipv6 address

**Description**

Configure an IPv6 address on the interface. If the argument is **auto**, address is autoconfigured. Passing a literal address as an argument will assign it statically.

Command with **no** prefix removes the setting.

**Prefix no** Yes**Change settings** Yes**Multiple input** Yes**Synopsis**`(config-if)> ipv6 address ( <address> | <block> | auto)``(config-if)> no ipv6 address [ <address> | <block> | auto]`**Arguments**

| Argument | Value               | Description                              |
|----------|---------------------|------------------------------------------|
| address  | <i>IPv6 address</i> | The network interface address.           |
| block    | <i>IPv6 address</i> | The network interface address with mask. |
| auto     | <i>Keyword</i>      | Enable stateless autoconfiguration.      |

**Example**

```
(config-if)> ipv6 address 2a01:291:2:612:52ff:20ff:fe00:1e87
Network::Interface::Ip6: "GigabitEthernet1": added static address ►
2a01:291:2:612:52ff:20ff:fe00:1e87.
```

```
(config-if)> ipv6 address 2001:db8::1
Network::Interface::Ip6: "GigabitEthernet1": added static address ►
2001:db8::1.
```

```
(config-if)> ipv6 address fd08:a648:e303::3/64
Network::Interface::Ip6: "GigabitEthernet1": added static address ►
fd08:a648:e303::3/64.
```

```
(config-if)> no ipv6 address 2a01:291:2:612:52ff:20ff:fe00:1e87
Network::Interface::Ip6: "GigabitEthernet1": removed static ►
address 2a01:291:2:612:52ff:20ff:fe00:1e87.
```

```
(config-if)> no ipv6 address
Network::Interface::Ip6: "GigabitEthernet1": cleared addresses.
```

**History**

| Version | Description                                                    |
|---------|----------------------------------------------------------------|
| 2.00    | The <b>interface ipv6 address</b> command has been introduced. |

## 3.25.127 interface ipv6 dhcp client pd hint

**Description**

Configure DHCPv6 client prefix delegation hint.

Command with **no** prefix removes the setting.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

No

**Synopsis**

```
(config-if)> ipv6 dhcp client pd hint <prefix>
```

```
(config-if)> no ipv6 dhcp client pd hint
```

**Arguments**

| Argument | Value         | Description                                                                       |
|----------|---------------|-----------------------------------------------------------------------------------|
| prefix   | <i>Prefix</i> | Requested IPv6 prefix or only its length if specified as <code>::/length</code> . |

**Example**

```
(config-if)> ipv6 dhcp client pd hint fd08:a648:e303::/64
Ip6::Dhcp::Client: "GigabitEthernet1": set a prefix delegation ►
hint to "fd08:a648:e303::/64".
```

```
(config-if)> ipv6 dhcp client pd hint ::/64
Ip6::Dhcp::Client: "GigabitEthernet1": set a prefix delegation ►
hint to "::/64".
```

```
(config-if)> no ipv6 dhcp client pd hint
Ip6::Dhcp::Client: "GigabitEthernet1": reset prefix delegation ►
hint.
```

**History**

| Version | Description                                                                |
|---------|----------------------------------------------------------------------------|
| 4.01    | The <b>interface ipv6 dhcp client pd hint</b> command has been introduced. |

## 3.25.128 interface ipv6 id

**Description** Set the way of IPv6 interface identifier generation. By default, the eui64 value is used.

Command with **no** prefix resets value to default.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Synopsis**

```
(config-if)> ipv6 id (<suffix> | eui64 | random)
```

```
(config-if)> no ipv6 id
```

**Arguments**

| Argument | Value          | Description                                           |
|----------|----------------|-------------------------------------------------------|
| suffix   | <i>Suffix</i>  | The static suffix.                                    |
| eui64    | <i>Keyword</i> | The identifier is based on the interface MAC address. |
| random   | <i>Keyword</i> | Random generation of the interface identifier.        |

**Example**

```
(config-if)> ipv6 id ::2
Network::Interface::Ip6: "Bridge0": interface ID is set to ::2.
```

```
(config-if)> ipv6 id eui64
Network::Interface::Ip6: "Bridge0": interface ID is set to eui64.
```

```
(config-if)> ipv6 id random
Network::Interface::Ip6: "Bridge0": interface ID is set to random.
```

```
(config-if)> no ipv6 id
Network::Interface::Ip6: "Bridge0": interface ID is reset to ►
default value.
```

**History**

| Version | Description                                               |
|---------|-----------------------------------------------------------|
| 4.01    | The <b>interface ipv6 id</b> command has been introduced. |



### 3.25.129 interface ipv6 name-servers

**Description** Configure retrieval of [DNS](#) information. When **auto** is set, enables DHCPv6 name-server requests.

Command with **no** prefix removes the setting.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Synopsis**

```
(config-if)> ipv6 name-servers (auto)
(config-if)> no ipv6 name-servers [auto]
```

**Arguments**

| Argument | Value          | Description                           |
|----------|----------------|---------------------------------------|
| auto     | <i>Keyword</i> | Enable name-server autoconfiguration. |

**Example**

```
(config-if)> ipv6 name-servers auto
Name servers provided by the interface network are accepted.
```

**History**

| Version | Description                                                         |
|---------|---------------------------------------------------------------------|
| 2.00    | The <b>interface ipv6 name-servers</b> command has been introduced. |

### 3.25.130 interface ipv6 prefix

**Description** Configure prefix delegation. When **auto** is set, prefix is requested via DHCPv6-PD.

Command with **no** prefix removes the setting.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Synopsis**

```
(config-if)> ipv6 prefix ( <prefix> | auto )
(config-if)> no ipv6 prefix [ <prefix> | auto ]
```

**Arguments**

| Argument | Value          | Description               |
|----------|----------------|---------------------------|
| auto     | <i>Keyword</i> | Enable prefix delegation. |
| prefix   | <i>Prefix</i>  | Manual input of prefix.   |

**Example** (config-if)> **ipv6 prefix 2001:db8:43:ab12::/64**  
Static IPv6 prefix added.

**History**

| Version | Description                                                   |
|---------|---------------------------------------------------------------|
| 2.00    | The <b>interface ipv6 prefix</b> command has been introduced. |

## 3.25.131 interface ipv6cp

**Description** Enable *IPv6CP* support during establishing connection.

Command with **no** prefix disables *IPv6CP*.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Interface type** PPP

**Synopsis**

```
(config-if)>  ipv6cp
(config-if)> no ipv6cp
```

**Example** (config-if)> **ipv6cp**  
IPv6CP enabled.

**History**

| Version | Description                                              |
|---------|----------------------------------------------------------|
| 2.00    | The <b>interface ipv6cp</b> command has been introduced. |

## 3.25.132 interface lcp acfc

**Description** Enable compression negotiation of the *Data Link Layer Address and Control fields*. By default, the feature is disabled.

Command with **no** prefix disables this option and all the remote peer requests for the *ACFC* negotiation will be rejected.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Interface type** PPP

**Synopsis**

```
(config-if)>  lcp acfc [cid]
```

```
(config-if)> no lcp acfc
```

**Arguments**

| Argument | Value          | Description                                       |
|----------|----------------|---------------------------------------------------|
| cid      | <i>Keyword</i> | Enable compression of Connection ID into headers. |

**Example**

```
(config-if)> lcp acfc cid
ACFC compression enabled
```

```
(config-if)> no lcp acfc cid
ACFC compression disabled
```

**History**

| Version | Description                                                |
|---------|------------------------------------------------------------|
| 2.03    | The <b>interface lcp acfc</b> command has been introduced. |

## 3.25.133 interface lcp echo

**Description**

Specify the testing rules of the [PPP](#) connection with [LCP](#) echo tools.

By default, interval is set to 30, count is set to 3.

Command with **no** prefix disables [LCP](#) echo.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

No

**Interface type**

PPP

**Synopsis**

```
(config-if)> lcp echo <interval> <count> [adaptive]
```

```
(config-if)> no lcp echo
```

**Arguments**

| Argument | Value          | Description                                                                                                                                                                                                                                                    |
|----------|----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| interval | <i>Integer</i> | Interval between sending <a href="#">LCP</a> echo, in seconds. If within the specified time interval there is no <a href="#">LCP</a> echo request from the remote location, the same request will be sent there asking for response <a href="#">LCP</a> reply. |
| count    | <i>Integer</i> | The number of consecutive requests <a href="#">LCP</a> echo sent, for which no response <a href="#">LCP</a> reply was received. If count of <a href="#">LCP</a> echo requests goes unanswered, the connection is terminated.                                   |

| Argument | Value          | Description                                                                                                                |
|----------|----------------|----------------------------------------------------------------------------------------------------------------------------|
| adaptive | <i>Keyword</i> | Pppd will send LCP echo-request frames only if no traffic was received from the peer since the last echo-request was sent. |

**Example**

```
(config-if)> lcp echo 20 2
Network::Interface::Ppp: "PPPoE0": LCP echo parameters updated.
```

```
(config-if)> no lcp echo
Network::Interface::Ppp: "PPPoE0": LCP echo disabled.
```

**History**

| Version | Description                                                |
|---------|------------------------------------------------------------|
| 2.00    | The <b>interface lcp echo</b> command has been introduced. |
| 2.06    | The adaptive keyword has been added.                       |

## 3.25.134 interface lcp pfc

**Description**

Enable compression negotiation of the [PPP Protocol field](#). By default, the feature is disabled.

Command with **no** prefix disables this option and all the remote peer requests for the [PFC](#) negotiation will be rejected.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

No

**Interface type**

PPP

**Synopsis**

```
(config-if)> lcp pfc [cid]
```

```
(config-if)> no lcp pfc
```

**Arguments**

| Argument | Value          | Description                                       |
|----------|----------------|---------------------------------------------------|
| cid      | <i>Keyword</i> | Enable compression of Connection ID into headers. |

**Example**

```
(config-if)> lcp pfc cid
PFC compression enabled
```

```
(config-if)> no lcp pfc cid
PFC compression disabled
```

| History | Version | Description                                               |
|---------|---------|-----------------------------------------------------------|
|         | 2.03    | The <b>interface lcp pfc</b> command has been introduced. |

### 3.25.135 interface ldpc

**Description** Enable the [LDPC](#) code for AP 5 GHz. By default, the feature is disabled.  
Command with **no** prefix disables this feature.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Interface type** WifiMaster

**Synopsis**

```
(config-if)> ldpc
(config-if)> no ldpc
```

**Example**

```
(config-if)> ldpc
Network::Interface::Rtx::WifiMaster: "WifiMaster1": LDPC enabled.

(config-if)> no ldpc
Network::Interface::Rtx::WifiMaster: "WifiMaster1": LDPC disabled.
```

| History | Version | Description                                            |
|---------|---------|--------------------------------------------------------|
|         | 2.07    | The <b>interface ldpc</b> command has been introduced. |

### 3.25.136 interface led wan

**Description** Display the interface status by means of LED. SelectedWan control should be chosen with [system led](#) command. By default, function is disabled.  
Command with **no** prefix disables the feature.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Synopsis**

```
(config-if)> led wan
(config-if)> no led wan
```

**Example**

```
(config-if)> led wan
Network::Interface::Led: Selected WAN GigabitEthernet1.
```

```
(config-if)> no led wan
Network::Interface::Led: Selected no WAN.
```

**History**

| Version | Description                                               |
|---------|-----------------------------------------------------------|
| 2.08    | The <b>interface led wan</b> command has been introduced. |

## 3.25.137 interface lldp disable

**Description** Disable [LLDP](#) agent on interface. By default, the feature is enabled.

Command with **no** prefix enables [LLDP](#) agent.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Synopsis**

```
(config-if)> lldp disable
(config-if)> no lldp disable
```

**Example**

```
(config-if)> lldp disable
Network::DiscoveryManager: LLDP agent is disabled on interface ►
"ISP".

(config-if)> no lldp disable
Network::DiscoveryManager: LLDP agent is enabled on interface ►
"ISP".
```

**History**

| Version | Description                                                    |
|---------|----------------------------------------------------------------|
| 2.11    | The <b>interface lldp disable</b> command has been introduced. |

## 3.25.138 interface mac access-list address

**Description** Add a MAC address to the permit/deny filtering list of the interface. Type of access list is set with [interface mac access-list type](#) command.

Command with **no** prefix removes the specified MAC address from the [ACL](#).

**Prefix no** Yes

**Change settings** Yes

**Multiple input** Yes

**Interface type** Access Point

**Synopsis**

```
(config-if)> mac access-list address <address>
```

```
(config-if)> no mac access-list address <address>
```

**Arguments**

| Argument | Value       | Description                                            |
|----------|-------------|--------------------------------------------------------|
| address  | MAC address | A MAC address to be added to the <a href="#">ACL</a> . |

**Example**

```
(config-if)> mac access-list address 64:a2:f9:53:b2:12  
Network::Interface::Ethernet: "WifiMaster0/AccessPoint1": added ►  
64:a2:f9:53:b2:12 to the ACL.
```

```
(config-if)> no mac access-list address 64:a2:f9:53:b2:12  
Network::Interface::Ethernet: "WifiMaster0/AccessPoint1": removed ►  
64:a2:f9:53:b2:12 from the ACL.
```

```
(config-if)> no mac access-list address  
Network::Interface::Ethernet: "WifiMaster0/AccessPoint1": ACL ►  
cleared.
```

**History**

| Version | Description                                                               |
|---------|---------------------------------------------------------------------------|
| 2.00    | The <b>interface mac access-list address</b> command has been introduced. |

## 3.25.139 interface mac access-list type

**Description**

Set the type for filtering list of the interface. Type is not defined by default (none value assigned).

**Prefix no**

No

**Change settings**

Yes

**Multiple input**

No

**Interface type**

Access Point

**Synopsis**

```
(config-if)> mac access-list type <type>
```

**Arguments**

| Argument | Value  | Description                                              |
|----------|--------|----------------------------------------------------------|
| type     | none   | Type of filtering list is not defined.                   |
|          | permit | Only approved MAC addresses will be added to the list.   |
|          | deny   | Only restricted MAC addresses will be added to the list. |

**Example**

```
(config-if)> mac access-list type permit
Network::Interface::Ethernet: "WifiMaster0/AccessPoint1": ACL ►
type changed to permit.
```

**History**

| Version | Description                                                            |
|---------|------------------------------------------------------------------------|
| 2.00    | The <b>interface mac access-list type</b> command has been introduced. |

## 3.25.140 interface mac address

**Description**

Set the MAC address to the specified network interface. Address is specified in hexadecimal format 00:00:00:00:00:00. The command allows one to assign arbitrary address, but warns the user if the new address “multicast” bit is set or “OUI enforced” bit is cleared.

Command with **no** prefix resets the original MAC addresses on the interface.

Warning: Change MAC address on Wi-Fi interface is prohibited.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

No

**Interface type**

MAC

**Synopsis**

```
(config-if)> mac address <mac>
```

```
(config-if)> no mac address
```

**Arguments**

| Argument | Value              | Description                       |
|----------|--------------------|-----------------------------------|
| mac      | <i>MAC address</i> | New MAC address of the interface. |

**Example**

```
(config-if)> mac address 3C:1F:6E:2A:1C:BA
```

```
(config-if)> no mac address
```

**History**

| Version | Description                                                   |
|---------|---------------------------------------------------------------|
| 2.00    | The <b>interface mac address</b> command has been introduced. |

## 3.25.141 interface mac address factory

**Description**

Set the factory MAC address to the interface.



|                        |     |
|------------------------|-----|
| <b>Prefix no</b>       | No  |
| <b>Change settings</b> | Yes |
| <b>Multiple input</b>  | No  |
| <b>Interface type</b>  | MAC |

**Synopsis** `(config-if)> mac address factory <name>`

#### Arguments

| Argument | Value | Description                                            |
|----------|-------|--------------------------------------------------------|
| name     | lan   | "LAN" MAC address will be assigned to the interface.   |
|          | wan   | "WAN" MAC address will be assigned to the interface.   |
|          | wlan5 | "WLAN5" MAC address will be assigned to the interface. |

#### Example

```
(config-if)> mac address factory lan
Core::System::UConfig: done.
```

#### History

| Version | Description                                                           |
|---------|-----------------------------------------------------------------------|
| 2.00    | The <b>interface mac address factory</b> command has been introduced. |

## 3.25.142 interface mac band

**Description** Bind a registered host to a 2.4 GHz or 5 GHz frequency band.

Command with **no** prefix removes the binding. If you use no argument, the entire list of bindings will be cleared.

|                        |        |
|------------------------|--------|
| <b>Prefix no</b>       | Yes    |
| <b>Change settings</b> | Yes    |
| <b>Multiple input</b>  | Yes    |
| <b>Interface type</b>  | Bridge |

**Synopsis** `(config-if)> mac band <mac> <band>`

`(config-if)> no mac band [ <mac> ]`

#### Arguments

| Argument | Value              | Description                           |
|----------|--------------------|---------------------------------------|
| mac      | <i>MAC address</i> | MAC address of the registered client. |
| band     | 0                  | 2,4 GHz band.                         |

| Argument | Value | Description |
|----------|-------|-------------|
|          | 1     | 5 GHz band. |

**Example**

```
(config-if)> mac band c0:b8:83:c2:cb:11 0
Network::Interface::Rtx::MacBand: "Bridge0": bound ►
c0:b8:83:c2:cb:11 to 2.4 GHz.
```

```
(config-if)> mac band c0:b8:83:c2:cb:11 1
Network::Interface::Rtx::MacBand: "Bridge0": bound ►
c0:b8:83:c2:cb:11 to 5 GHz.
```

```
(config-if)> no mac band c0:b8:83:c2:cb:85
Network::Interface::Rtx::MacBand: "Bridge0": unbound ►
c0:b8:83:c2:cb:85 from 2.4 GHz.
```

```
(config-if)> no mac band
Network::Interface::Rtx::MacBand: Unbound all hosts.
```

**History**

| Version | Description                                                |
|---------|------------------------------------------------------------|
| 3.05    | The <b>interface mac band</b> command has been introduced. |

## 3.25.143 interface mac bssid

**Description**

Specify the Access Point's MAC address to connect to [WISP](#).

Command with **no** prefix removes the MAC address.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

No

**Interface type**

WifiStation

**Synopsis**

```
(config-if)> mac bssid <bssid>
```

```
(config-if)> no mac bssid
```

**Arguments**

| Argument | Value              | Description                       |
|----------|--------------------|-----------------------------------|
| bssid    | <i>MAC address</i> | MAC address of WISP Access Point. |

**Example**

```
(config-if)> mac bssid 56:ff:20:00:1e:11
Network::Interface::WifiStation: BSSID set to 56:ff:20:00:1e:11.
```

```
(config-if)> no mac bssid
Network::Interface::WifiStation: BSSID cleared.
```

**History**

| Version | Description                                                 |
|---------|-------------------------------------------------------------|
| 2.13    | The <b>interface mac bssid</b> command has been introduced. |

## 3.25.144 interface mac clone

**Description** Clone the MAC address from the operator's PC to the interface.

**Prefix no** No

**Change settings** Yes

**Multiple input** No

**Interface type** MAC, IP

**Synopsis** `(config-if)> mac clone`

**Example** `(config-if)> mac clone`

**History**

| Version | Description                                                 |
|---------|-------------------------------------------------------------|
| 2.00    | The <b>interface mac clone</b> command has been introduced. |

## 3.25.145 interface openconnect accept-addresses

**Description** Enable address accepting from the [OpenConnect](#) server.

Command with **no** prefix disables the feature.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Interface type** OpenConnect

**Synopsis** `(config-if)> openconnect accept-addresses`

`(config-if)> no openconnect accept-addresses`

**Example** `(config-if)> openconnect accept-addresses`  
 OpenConnect::Interface: "OpenConnect0": enabled addresses accept.

`(config-if)> no openconnect accept-addresses`  
 OpenConnect::Interface: "OpenConnect0": disabled addresses accept.

**History**

| Version | Description                                                                    |
|---------|--------------------------------------------------------------------------------|
| 4.02    | The <b>interface openconnect accept-addresses</b> command has been introduced. |

## 3.25.146 interface openconnect accept-routes

**Description**

Enable receiving routes from a remote side via [OpenConnect](#).

Command with **no** prefix disables the feature.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

No

**Interface type**

OpenConnect

**Synopsis**

```
(config-if)> openconnect accept-routes
```

```
(config-if)> no openconnect accept-routes
```

**Example**

```
(config-if)> openconnect accept-routes
OpenConnect::Interface: "OpenConnect0": enabled routes accept.
```

```
(config-if)> no openconnect accept-routes
OpenConnect::Interface: "OpenConnect0": disabled routes accept.
```

**History**

| Version | Description                                                                 |
|---------|-----------------------------------------------------------------------------|
| 4.03    | The <b>interface openconnect accept-routes</b> command has been introduced. |

## 3.25.147 interface openconnect authgroup

**Description**

Configure authgroup setting for the [OpenConnect](#).

Note: The command implements a connection to the Cisco ASA.

Command with **no** prefix removes the setting.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

No

**Interface type**

OpenConnect

**Synopsis**

```
(config-if)> openconnect authgroup <authgroup>
```

```
(config-if)> no openconnect authgroup
```

**Arguments**

| Argument  | Value         | Description     |
|-----------|---------------|-----------------|
| authgroup | <i>String</i> | The group name. |

**Example**

```
(config-if)> openconnect authgroup MYEXAMPLE
OpenConnect::Interface: "OpenConnect0": set auth group ►
"MYEXAMPLE".
```

```
(config-if)> no openconnect authgroup
OpenConnect::Interface: "OpenConnect0": removed auth group.
```

**History**

| Version | Description                                                             |
|---------|-------------------------------------------------------------------------|
| 4.02    | The <b>interface openconnect authgroup</b> command has been introduced. |

## 3.25.148 interface openconnect dtls

**Description**

Configure the DTLS mode for the [OpenConnect](#). By default, the mode is enabled.

Note: OpenConnect prefers PPP-over-DTLS. It will fall over to PPP-over-TLS if PPP-over-DTLS fails, or if it is disabled.

Command with **no** prefix disables the DTLS mode.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

No

**Interface type**

OpenConnect

**Synopsis**

```
(config-if)> openconnect dtls
```

```
(config-if)> no openconnect dtls
```

**Example**

```
(config-if)> openconnect dtls
OpenConnect::Interface: "OpenConnect0": enabled DTLS mode.
```

```
(config-if)> no openconnect dtls
OpenConnect::Interface: "OpenConnect0": disabled DTLS mode.
```

**History**

| Version | Description                                                        |
|---------|--------------------------------------------------------------------|
| 4.03    | The <b>interface openconnect dtls</b> command has been introduced. |

### 3.25.149 interface openconnect protocol fortinet

| <b>Description</b>     | <p>Enable support <a href="https://www.infradead.org/openconnect/fortinet.html">Fortinet</a><sup>13</sup> protocol for the <i>OpenConnect</i>.</p> <p>Command with <b>no</b> prefix removes the setting.</p>                                                 |         |             |      |                                                                                 |
|------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|-------------|------|---------------------------------------------------------------------------------|
| <b>Prefix no</b>       | Yes                                                                                                                                                                                                                                                          |         |             |      |                                                                                 |
| <b>Change settings</b> | Yes                                                                                                                                                                                                                                                          |         |             |      |                                                                                 |
| <b>Multiple input</b>  | No                                                                                                                                                                                                                                                           |         |             |      |                                                                                 |
| <b>Interface type</b>  | OpenConnect                                                                                                                                                                                                                                                  |         |             |      |                                                                                 |
| <b>Synopsis</b>        | <pre>(config-if)&gt; openconnect protocol fortinet</pre> <pre>(config-if)&gt; no openconnect protocol</pre>                                                                                                                                                  |         |             |      |                                                                                 |
| <b>Example</b>         | <pre>(config-if)&gt; openconnect protocol fortinet</pre> <pre>OpenConnect::Interface: "OpenConnect0": set protocol "fortinet".</pre> <pre>(config-if)&gt; no openconnect protocol</pre> <pre>OpenConnect::Interface: "OpenConnect0": removed protocol.</pre> |         |             |      |                                                                                 |
| <b>History</b>         | <table border="1"> <thead> <tr> <th>Version</th><th>Description</th></tr> </thead> <tbody> <tr> <td>4.03</td><td>The <b>interface openconnect protocol fortinet</b> command has been introduced.</td></tr> </tbody> </table>                                 | Version | Description | 4.03 | The <b>interface openconnect protocol fortinet</b> command has been introduced. |
| Version                | Description                                                                                                                                                                                                                                                  |         |             |      |                                                                                 |
| 4.03                   | The <b>interface openconnect protocol fortinet</b> command has been introduced.                                                                                                                                                                              |         |             |      |                                                                                 |

### 3.25.150 interface openvpn accept-routes

|                        |                                                                                                                                                              |
|------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Description</b>     | <p>Enable receiving routes from a remote side via OpenVPN.</p> <p>Command with <b>no</b> prefix disables the feature.</p>                                    |
| <b>Prefix no</b>       | Yes                                                                                                                                                          |
| <b>Change settings</b> | Yes                                                                                                                                                          |
| <b>Multiple input</b>  | No                                                                                                                                                           |
| <b>Interface type</b>  | OpenVPN                                                                                                                                                      |
| <b>Synopsis</b>        | <pre>(config-if)&gt; openvpn accept-routes</pre> <pre>(config-if)&gt; no openvpn accept-routes</pre>                                                         |
| <b>Example</b>         | <pre>(config-if)&gt; openvpn accept-routes</pre> <pre>Network::Interface::OpenVpn: "OpenVPN0": enable automatic routes ►</pre> <pre>accept via tunnel.</pre> |

<sup>13</sup> <https://www.infradead.org/openconnect/fortinet.html>

```
(config-if)> no openvpn accept-routes
Network::Interface::OpenVpn: "OpenVPN0": disable automatic routes ►
accept via tunnel.
```

**History**

| Version | Description                                                             |
|---------|-------------------------------------------------------------------------|
| 2.10    | The <b>interface openvpn accept-routes</b> command has been introduced. |

## 3.25.151 interface openvpn connect

**Description** Set interface for OpenVPN connection. If you use no argument, connection is set via any interface.

**Prefix no** No

**Change settings** Yes

**Multiple input** No

**Interface type** OpenVPN

**Synopsis**

```
(config-if)> openvpn connect [ via <via> ]
```

```
(config-if)> openvpn connect
```

**Arguments**

| Argument | Value            | Description                      |
|----------|------------------|----------------------------------|
| via      | <i>Interface</i> | Full interface name or an alias. |

**Example**

```
(config-if)> openvpn connect via ISP
Network::Interface::OpenVpn: "OpenVPN0": set connection via ISP.
```

```
(config-if)> openvpn connect
Network::Interface::OpenVpn: "OpenVPN0": set connection via any ►
interface.
```

**History**

| Version | Description                                                       |
|---------|-------------------------------------------------------------------|
| 2.10    | The <b>interface openvpn connect</b> command has been introduced. |

## 3.25.152 interface openvpn name-servers

**Description** Use [DNS](#) server addresses which are received via OpenVPN server. By default, the function is enabled.

Command with **no** prefix denies using of [DNS](#) server addresses which are received via OpenVPN server.

**Prefix no** Yes**Change settings** Yes**Multiple input** No**Interface type** OpenVPN

**Synopsis**

```
(config-if)> openvpn name-servers
```

```
(config-if)> no openvpn name-servers
```

**Example**

```
(config-if)> openvpn name-servers
Network::Interface::OpenVpn: "OpenVPN0": automatic name servers ►
via tunnel are enabled.
```

```
(config-if)> no openvpn name-servers
Network::Interface::OpenVpn: "OpenVPN0": automatic name servers ►
via tunnel are disabled.
```

**History**

| Version | Description                                                            |
|---------|------------------------------------------------------------------------|
| 3.06    | The <b>interface openvpn name-servers</b> command has been introduced. |

## 3.25.153 interface peer

**Description** Specify ID of the remote peer to which the [PPP](#) connection will be used. A more precise meaning of configuration depends on interface type. For example, for PPPoE the **interface peer** command specifies the name of access hub, for PPTP — remote host name or IP address, and for SSTP — specifies a remote server with port 443 or another.

Command with **no** prefix cancels the setting.

**Prefix no** Yes**Change settings** Yes**Multiple input** No**Interface type** PPP

**Synopsis**

```
(config-if)> peer <peer>
```

```
(config-if)> no peer
```

**Arguments**

| Argument | Value         | Description                                                                                                              |
|----------|---------------|--------------------------------------------------------------------------------------------------------------------------|
| peer     | <i>String</i> | Remote connection point ID or remote server address <code>host.example.net:port</code> . By default, port number is 443. |



**Example**

```
(config-if)> peer 111
```

```
(config-if)> peer host.example.net:5555
```

**History**

| Version | Description                                              |
|---------|----------------------------------------------------------|
| 2.00    | The <b>interface peer</b> command has been introduced.   |
| 2.12    | Added the ability to change the port of a remote server. |

## 3.25.154 interface peer-isolation

**Description**

Enable the isolation of wireless clients in the Home segment. The setting applies on the Bridge interface and has an effect for all access points included in it. Also, it blocks traffic from wireless clients inside the L2 network.

Command with **no** prefix cancels the setting.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

No

**Interface type**

Bridge

**Synopsis**

```
(config-if)> peer-isolation
```

```
(config-if)> no peer-isolation
```

**Example**

```
(config-if)> peer-isolation
```

```
Network::Interface::Ethernet: "Bridge0": peer isolation enabled.
```

```
(config-if)> no peer-isolation
```

```
Network::Interface::Ethernet: "Bridge0": peer isolation disabled.
```

**History**

| Version | Description                                                      |
|---------|------------------------------------------------------------------|
| 2.10    | The <b>interface peer-isolation</b> command has been introduced. |

## 3.25.155 interface ping-check profile

**Description**

Assign [Ping Check](#) profile to the interface.

Command with **no** prefix cancels the setting.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

No

**Synopsis**`(config-if)> ping-check profile <profile>``(config-if)> no ping-check profile`**Arguments**

| Argument | Value         | Description             |
|----------|---------------|-------------------------|
| profile  | <i>String</i> | Profile name to assign. |

**Example**

```
(config-if)> ping-check profile test
PingCheck::Client: Set ping-check profile for interface "ISP".
```

```
(config-if)> no ping-check profile
PingCheck::Client: Reset ping-check profile for interface "ISP".
```

**History**

| Version | Description                                                          |
|---------|----------------------------------------------------------------------|
| 2.04    | The <b>interface ping-check profile</b> command has been introduced. |

## 3.25.156 interface ping-check restart

**Description**

Enable interface restart if *Ping Check* is triggered (Internet is not available on interface). By default the function is disabled.

Command with **no** prefix disables the function.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

No

**Synopsis**`(config-if)> ping-check restart [ <interface> ]``(config-if)> no ping-check restart`**Arguments**

| Argument  | Value            | Description                                                                                                                                                                                                                    |
|-----------|------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| interface | <i>Interface</i> | Full name or alias of the interface to be restarted when the <i>Ping Check</i> on the binded interface is triggered. If this argument is not specified, the interface binded with <i>Ping Check</i> profile will be restarted. |

**Example**

```
(config-if)> ping-check restart
PingCheck::Client: Enabled "PPPoE0" interface restart.
```

```
(config-if)> ping-check restart ISP
PingCheck::Client: Enabled "ISP" interface restart for "PPPoE0".
```

```
(config-if)> no ping-check restart
PingCheck::Client: Remove restart settings for "PPPoE0".
```

## History

| Version | Description                                                          |
|---------|----------------------------------------------------------------------|
| 3.04    | The <b>interface ping-check restart</b> command has been introduced. |

## 3.25.157 interface pmf

### Description

Enable [PMF](#) functionality.

#### Note:

With [WPA2](#) or [WPA2+WPA3](#) encryption selected, the pmf command enables PMF Capable (MFPC) for the clients connecting to the AP.

If the client supports [PMF](#) functionality, then it will be able to connect with [PMF](#), if not, then it will connect without [PMF](#) to the AP.

If WPA3 encryption is selected, the [PMF](#) function becomes mandatory for clients connecting to the AP.

Command with **no** prefix disables the feature.

### Prefix no

Yes

### Change settings

Yes

### Multiple input

No

### Interface type

WiFi

### Synopsis

```
(config-if)> pmf [force]
```

```
(config-if)> no pmf
```

### Arguments

| Argument | Value          | Description                                                                            |
|----------|----------------|----------------------------------------------------------------------------------------|
| force    | <i>Keyword</i> | Enable the mandatory <a href="#">PMF</a> function for <a href="#">WPA2</a> encryption. |

### Example

```
(config-if)> pmf
Network::Interface::Rtx::WifiStation: "WifiMaster0/WifiStation0": ►
PMF enabled.
```

```
(config-if)> pmf force
Network::Interface::Mtk::WifiStation: "WifiMaster0/WifiStation0": ►
PMF forced.
```

```
(config-if)> no pmf
Network::Interface::Rtx::WifiStation: "WifiMaster0/WifiStation0": ►
PMF disabled.
```

**History**

| Version | Description                                           |
|---------|-------------------------------------------------------|
| 2.09    | The <b>interface pmf</b> command has been introduced. |
| 4.01    | The force keyword was added.                          |

## 3.25.158 interface pmksa-lifetime

**Description** Change the [PMK](#) cache lifetime. By default, the value 1440 is set.

**Prefix no** No

**Change settings** Yes

**Multiple input** No

**Interface type** WiFiMaster

**Synopsis** `(config-if)> pmksa-lifetime <pmksa-lifetime>`

**Arguments**

| Argument       | Value          | Description                 |
|----------------|----------------|-----------------------------|
| pmksa-lifetime | <i>Integer</i> | Lifetime value, in minutes. |

**Example**

```
(config-if)> interface WifiMaster1 pmksa-lifetime 43200
Network::Interface::Mtk::WifiMaster: "WifiMaster1": PMKSA cache ►
lifetime updated.
```

**History**

| Version | Description                                                      |
|---------|------------------------------------------------------------------|
| 4.01    | The <b>interface pmksa-lifetime</b> command has been introduced. |

## 3.25.159 interface power

**Description** Set the transmitter power for the radio interface. Transmitter power is limited by the hardware capabilities and state laws applicable to radio broadcast. This command allows one to only reduce the power of the transmitter relative to its maximum power, such as to decrease potential interference with other devices in this range/band. By default, the setting value of the power is set to 100.

**Prefix no** No

**Change settings** Yes

**Multiple input** No

**Interface type** Radio

**Synopsis** `(config-if)> power <power>`

| Argument | Value          | Description                                                                   |
|----------|----------------|-------------------------------------------------------------------------------|
| power    | <i>Integer</i> | The transmitter power as the percentage of the maximum power (from 1 to 100). |

**Example** `(config-if)> power 1`  
 Network::Interface::Rtx::WifiMaster: "WifiMaster0": TX power ► level set.

| Version | Description                                             |
|---------|---------------------------------------------------------|
| 2.00    | The <b>interface power</b> command has been introduced. |

## 3.25.160 interface pppoe service

**Description** Specify PPPoE service. If service is not defined, then PPPoE client will be connected to an arbitrary service.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Interface type** PPPoE

**Synopsis** `(config-if)> pppoe service <service>`  
`(config-if)> no pppoe service`

| Argument | Value         | Description            |
|----------|---------------|------------------------|
| service  | <i>String</i> | Name of PPPoE service. |

**Example** `(config-if)> pppoe service TEST`  
 Network::Interface::Pppoe: "PPPoE0": service set.

`(config-if)> no pppoe service`  
 Network::Interface::Pppoe: "PPPoE0": service removed.

| Version | Description                                                     |
|---------|-----------------------------------------------------------------|
| 2.05    | The <b>interface pppoe service</b> command has been introduced. |

### 3.25.161 interface pppoe session auto-cleanup

**Description** Enable sending a PADT packet for the unfinished PPPoE session. By default the option is enabled.

Command with **no** prefix disables sending a PADT packet.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Interface type** PPPoE

**Synopsis**

```
(config-if)> pppoe session auto-cleanup
(config-if)> no pppoe session auto-cleanup
```

**Example**

```
(config-if)> pppoe session auto-cleanup
Network::Interface::Ppp: "PPPoE0": enabled session auto cleanup.

(config-if)> no pppoe session auto-cleanup
Network::Interface::Ppp: "PPPoE0": disabled session auto cleanup.
```

**History**

| Version | Description                                                                  |
|---------|------------------------------------------------------------------------------|
| 3.03    | The <b>interface pppoe session auto-cleanup</b> command has been introduced. |

### 3.25.162 interface preamble-short

**Description** Use short *preamble*. By default, the setting is disabled.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Interface type** Radio

**Synopsis**

```
(config-if)> preamble-short
(config-if)> no preamble-short
```

**Example**

```
(config-if)> preamble-short
Network::Interface::Rtx::WifiMaster: "WifiMaster0": short ►
preamble enabled.
```

```
(config-if)> no preamble-short
Network::Interface::Rtx::WifiMaster: "WifiMaster0": short ►
preamble disabled.
```

**History**

| Version | Description                                                      |
|---------|------------------------------------------------------------------|
| 2.00    | The <b>interface preamble-short</b> command has been introduced. |

## 3.25.163 interface proxy connect

**Description** Start the process of connecting to the proxy server. By default, connection is set via any interface.

Command with **no** prefix resets value to default.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Interface type** Proxy

**Synopsis**

```
(config-if)> proxy connect [ via <via> ]
(config-if)> no proxy connect
```

**Arguments**

| Argument | Value            | Description                                      |
|----------|------------------|--------------------------------------------------|
| via      | <i>Interface</i> | Interface through which remote node is accessed. |

**Example**

```
(config-if)> proxy connect via WifiMaster1/WifiStation0
Proxy::Interface: "Proxy0": set connection via ►
WifiMaster1/WifiStation0.
```

```
(config-if)> no proxy connect
Proxy::Interface: "Proxy0": set connection via any interface.
```

**History**

| Version | Description                                                     |
|---------|-----------------------------------------------------------------|
| 3.09    | The <b>interface proxy connect</b> command has been introduced. |

## 3.25.164 interface proxy protocol

**Description** Set the connection protocol. By default, the http protocol and *TCP* connection is used for proxy server.

Command with **no** prefix resets setting to default.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Interface type** Proxy

**Synopsis**

```
(config-if)> proxy protocol <protocol>
(config-if)> no proxy protocol
```

**Arguments**

| Argument | Value  | Description                                                |
|----------|--------|------------------------------------------------------------|
| protocol | socks5 | Use <a href="#">SOCKS5</a> protocol for connection.        |
|          | http   | Use <a href="#">HTTP or HTTPS</a> protocol for connection. |

**Example**

```
(config-if)> proxy protocol socks5
Proxy::Interface: "Proxy0": set proxy protocol to socks5.
```

```
(config-if)> no proxy protocol
Proxy::Interface: "Proxy0": reset proxy protocol.
```

**History**

| Version | Description                                                      |
|---------|------------------------------------------------------------------|
| 3.09    | The <b>interface proxy protocol</b> command has been introduced. |

## 3.25.165 interface proxy socks5-udp

**Description** Enable [UDP](#) mode for the [SOCKS5](#) protocol. By default, the [UDP](#) mode is disabled.

Command with **no** prefix disables the mode.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Interface type** Proxy

**Synopsis**

```
(config-if)> proxy socks5-udp
(config-if)> no proxy socks5-udp
```

**Example**

```
(config-if)> proxy socks5-udp
Proxy::Interface: "Proxy0": enable SOCKS5 UDP mode.
```



```
(config-if)> no proxy socks5-udp
Proxy::Interface: "Proxy0": disable SOCKS5 UDP mode.
```

**History**

| Version | Description                                                        |
|---------|--------------------------------------------------------------------|
| 4.1     | The <b>interface proxy socks5-udp</b> command has been introduced. |

## 3.25.166 interface proxy upstream

**Description**

Set proxy server for connection.

Command with **no** prefix removes the setting.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

No

**Interface type**

Proxy

**Synopsis**

```
(config-if)> proxy upstream <host> [<port>]
```

```
(config-if)> no proxy upstream
```

**Arguments**

| Argument | Value          | Description                                |
|----------|----------------|--------------------------------------------|
| host     | <i>String</i>  | IP-address or domain name of proxy server. |
| port     | <i>Integer</i> | The server port.                           |

**Example**

```
(config-if)> proxy upstream 161.8.174.48 1080
Proxy::Interface: "Proxy0": set proxy upstream to ►
161.8.174.48:1080.
```

```
(config-if)> no proxy upstream
Proxy::Interface: "Proxy0": cleared proxy upstream.
```

**History**

| Version | Description                                                      |
|---------|------------------------------------------------------------------|
| 3.09    | The <b>interface proxy upstream</b> command has been introduced. |

## 3.25.167 interface reconnect-delay

**Description**

Set the period of time between reconnection attempts. By default, value 3 is used.

Command with **no** prefix resets setting to default.

**Prefix no** Yes**Change settings** Yes**Multiple input** No**Interface type** PPP

**Synopsis**

```
(config-if)> reconnect-delay <sec>
(config-if)> no reconnect-delay
```

**Arguments**

| Argument | Value          | Description                                                           |
|----------|----------------|-----------------------------------------------------------------------|
| sec      | <i>Integer</i> | Value of time in seconds. Can take values in the range from 3 to 600. |

**Example**

```
(config-if)> reconnect-delay 3
Network::Interface::Ppp: "PPTP1": reconnect delay set to 3 ►
seconds.
```

```
(config-if)> no reconnect-delay
Network::Interface::Ppp: "PPTP0": reconnect delay reset to ►
default.
```

**History**

| Version | Description                                                       |
|---------|-------------------------------------------------------------------|
| 2.11    | The <b>interface reconnect-delay</b> command has been introduced. |

## 3.25.168 interface rekey-interval

**Description** Set the period of time between automatic changes of the secret keys, which all devices on the network share. By default, 86400 value is used.

Command with **no** prefix disables keys changing.

**Prefix no** Yes**Change settings** Yes**Multiple input** No**Interface type** WiFi

**Synopsis**

```
(config-if)> rekey-interval <interval>
(config-if)> no rekey-interval
```

**Arguments**

| Argument | Value          | Description                         |
|----------|----------------|-------------------------------------|
| interval | <i>Integer</i> | Value of rekey interval in seconds. |

**Example**

```
(config-if)> rekey-interval 3000
Network::Interface::Rtx::WifiMaster: "WifiMaster0": rekey ►
interval is 3000 sec.
```

```
(config-if)> no rekey-interval
Network::Interface::Rtx::WifiMaster: "WifiMaster0": rekey ►
interval disabled.
```

**History**

| Version | Description                                                      |
|---------|------------------------------------------------------------------|
| 2.06    | The <b>interface rekey-interval</b> command has been introduced. |
| 2.15    | Added default value of rekey interval 3600 sec.                  |
| 3.04    | Default value of rekey interval is changed to 86400 sec.         |

## 3.25.169 interface rename

**Description**

Assign arbitrary name to the specified network interface. The interface can be referred to by the new name just like by ID.

Command with **no** prefix removes the setting.

Warning: Do not rename Home interface. This can cause unpredictable system errors.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

No

**Synopsis**

```
(config-if)> rename <rename>
```

```
(config-if)> no rename
```

**Arguments**

| Argument | Value         | Description         |
|----------|---------------|---------------------|
| rename   | <i>String</i> | New interface name. |

**Example**

```
(config-if)> rename PPPoE1
Network::Interface::Base: "PPPoE0": renamed to "PPPoE1".
```

```
(config-if)> no rename
Network::Interface::Base: "PPPoE0": name cleared.
```

**History**

| Version | Description                                              |
|---------|----------------------------------------------------------|
| 2.08    | The <b>interface rename</b> command has been introduced. |

## 3.25.170 interface rf e2p set

**Description** Change the memory cell value of calibration data at *offset* by *value* for the specified interface.

**Prefix no** No

**Change settings** No

**Multiple input** No

**Interface type** Radio

**Synopsis** `(config-if) rf e2p set <offset> <value>`

**Arguments**

| Argument | Value      | Description                                                         |
|----------|------------|---------------------------------------------------------------------|
| offset   | <i>Hex</i> | Memory cell location. Can take values in the range from 1E0 to 1FE. |
| value    | <i>Hex</i> | Value to be set. Can take values in the range from 0 to FFFF.       |

**Example**

```
(config-if)> rf e2p set 1f6 0
Network::Interface::Rtx::WifiMaster: EEPROM [0x01F6]:0000 set.
```

**History**

| Version | Description                                                  |
|---------|--------------------------------------------------------------|
| 2.04    | The <b>interface rf e2p set</b> command has been introduced. |

## 3.25.171 interface role

**Description** Set a role for the interface. Multiple roles can be assigned to one interface. Command is used for correct view of VLAN connections in the web interface.

Command with **no** prefix removes the role. If you use no arguments, the entire list of roles will be removed.

**Prefix no** Yes

**Change settings** No

**Multiple input** Yes

**Synopsis** `(config-if)> role <role> [ for <ifor> ]`

```
(config-if)> no role [ role ]
```

### Arguments

| Argument | Value     | Description                                       |
|----------|-----------|---------------------------------------------------|
| role     | inet      | Interface is used for Internet connection.        |
|          | iptv      | Interface is used for IPTV service.               |
|          | voip      | Interface is used for VoIP service.               |
|          | misc      | Interface is used for <a href="#">IP Policy</a> . |
| ifor     | Interface | Full interface name or an alias.                  |

### Example

```
(config-if)> role iptv for GigabitEthernet1
Network::Interface::Base: "GigabitEthernet1": assigned role ►
"iptv" for GigabitEthernet1.
```

```
(config-if)> no role iptv for GigabitEthernet1
Network::Interface::Base: "GigabitEthernet1": deleted role "iptv".
```

```
(config-if)> no role
Network::Interface::Base: "GigabitEthernet1": deleted all roles.
```

### History

| Version | Description                                            |
|---------|--------------------------------------------------------|
| 2.06    | The <b>interface role</b> command has been introduced. |
| 2.10    | Argument misc was added.                               |

## 3.25.172 interface rrm

### Description

Enable [RRM](#) for search of nearby APs according to IEEE 802.11k standard in order to provide this AP list to the subscriber device by request. By default, the option is disabled.

Command with **no** prefix removes the setting.

### Prefix no

Yes

### Change settings

Yes

### Multiple input

No

### Interface type

AccessPoint

### Synopsis

```
(config-if)> rrm
```

```
(config-if)> no rrm
```

### Example

```
(config-if)> rrm
Network::Interface::Rtx::AccessPoint: "WifiMaster0/AccessPoint0": ►
RRM enabled.
```

```
(config-if)> no rrm
Network::Interface::Rtx::AccessPoint: "WifiMaster0/AccessPoint0": ►
RRM disabled.
```

**History**

| Version | Description                                           |
|---------|-------------------------------------------------------|
| 2.13    | The <b>interface rrm</b> command has been introduced. |

## 3.25.173 interface rssi-threshold

**Description**

Set the RSSI signal strength threshold for the Access Point at which Wi-Fi clients will be disconnected and cannot connect to the Access Point. By default, the RSSI value 0 is used.

Command with **no** prefix resets setting to default.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

No

**Interface type**

AccessPoint

**Synopsis**

```
(config-if)> rssi-threshold <rssi-threshold>
```

```
(config-if)> no rssi-threshold
```

**Arguments**

| Argument       | Value          | Description                                                                             |
|----------------|----------------|-----------------------------------------------------------------------------------------|
| rssi-threshold | <i>Integer</i> | RSSI values in the range from -100 to 0. If value is set to 0, the setting is disabled. |

**Example**

```
(config-if)> rssi-threshold -30
Network::Interface::Mtk::AccessPoint: "WifiMaster0/AccessPoint0": ►
rssi threshold is set to -30.
```

```
(config-if)> no rssi-threshold
Network::Interface::Mtk::AccessPoint: "WifiMaster0/AccessPoint0": ►
rssi threshold reset to 0.
```

**History**

| Version | Description                                                      |
|---------|------------------------------------------------------------------|
| 4.01    | The <b>interface rssi-threshold</b> command has been introduced. |

## 3.25.174 interface schedule

**Description** Assign a schedule to the interface. Schedule must be created and customized with [schedule action](#) command before execution.

Command with **no** prefix unbinds the schedule.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Synopsis**

```
(config-if)> schedule <schedule>
(config-if)> no schedule
```

**Arguments**

| Argument | Value           | Description                                                                                |
|----------|-----------------|--------------------------------------------------------------------------------------------|
| schedule | <i>Schedule</i> | The name of the schedule that was created with <a href="#">schedule</a> group of commands. |

**Example**

```
(config-if)> schedule WIFI
Network::Interface::Base: "WifiMaster0": schedule is "WiFi".
```

```
(config-if)> no schedule
Network::Interface::Base: "WifiMaster0": schedule cleared.
```

**History**

| Version | Description                                                |
|---------|------------------------------------------------------------|
| 2.06    | The <b>interface schedule</b> command has been introduced. |

## 3.25.175 interface security-level

**Description** Specify the interface security level. The security levels define the firewall logic:

- Allow establishing private → public connections.
- Prohibit establishing connections coming to the public interface, i. e. in the direction public → private and public → public.
- The device itself accepts network connections (allows control) only from private interfaces.
- Data transfer between private interfaces can be allowed or disallowed depending on the [isolate-private](#) global parameter.
- protected interfaces have no access to device and to other private/protected subnetworks, but they have access to public interfaces and to the internet. The device provides only DHCP and DNS services to the protected segments.

- Data transfer from private to protected interfaces is forbidden by default. To allow such connection use the **no isolate-private** command.

Note: By default, to all newly created interfaces public security level assigned.

Access lists **access-list** have higher priority than the security levels, so they can be used to set additional rules of packet filtering.

**Prefix no** No

**Change settings** Yes

**Multiple input** No

**Interface type** IP

**Synopsis** `(config-if)> security-level (public | private | protected)`

**Example** Despite the fact that there is no functionality to disable the firewall completely, it is possible to disable it for particular directions. Suppose that it is necessary to allow data transfer between the “home” network Home and global network PPPoE0. To accomplish that, to both interfaces must be assigned private security level and function **isolate-private** must be disabled.

```
(config)> interface Home security-level private
Network::Interface::IP: "Bridge0": security level set to ►
"private".
```

```
(config)> interface PPPoE0 security-level private
Network::Interface::IP: "PPPoE0": security level set to "private".
```

```
(config)> no isolate-private
Netfilter::Manager: Private networks not isolated.
```

Note: The firewall and the address translation — are the functions designed to solve fundamentally different problems. Enabling NAT between Home and PPPoE0 interfaces in the configuration shown above, does not prohibit access to the network Home from the global network. Even as the address translation is enabled by command **ip nat Home**, the packets from PPPoE0 will get to Home network.

## History

| Version | Description                                                      |
|---------|------------------------------------------------------------------|
| 2.00    | The <b>interface security-level</b> command has been introduced. |
| 2.06    | The protected parameter was added.                               |



### 3.25.176 interface spatial-reuse

| <b>Description</b>     | <p>Enable support of <i>Spatial Reuse</i> for AP 2,4 GHz and 5 GHz. By default, setting is enabled.</p> <p>Command with <b>no</b> prefix disables the setting.</p>                                                                                                                                                  |         |             |      |                                                                 |
|------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|-------------|------|-----------------------------------------------------------------|
| <b>Prefix no</b>       | Yes                                                                                                                                                                                                                                                                                                                 |         |             |      |                                                                 |
| <b>Change settings</b> | Yes                                                                                                                                                                                                                                                                                                                 |         |             |      |                                                                 |
| <b>Multiple input</b>  | No                                                                                                                                                                                                                                                                                                                  |         |             |      |                                                                 |
| <b>Interface type</b>  | WiFiMaster                                                                                                                                                                                                                                                                                                          |         |             |      |                                                                 |
| <b>Synopsis</b>        | <pre>(config-if)&gt; <b>spatial-reuse</b></pre> <pre>(config-if)&gt; <b>no spatial-reuse</b></pre>                                                                                                                                                                                                                  |         |             |      |                                                                 |
| <b>Example</b>         | <pre>(config-if)&gt; <b>spatial-reuse</b></pre> <pre>Network::Interface::Rtx::WifiMaster: "WifiMaster0": llax spatial ►</pre> <pre>reuse enabled.</pre> <pre>(config-if)&gt; <b>no spatial-reuse</b></pre> <pre>Network::Interface::Rtx::WifiMaster: "WifiMaster0": llax spatial ►</pre> <pre>reuse disabled.</pre> |         |             |      |                                                                 |
| <b>History</b>         | <table border="1"> <thead> <tr> <th>Version</th><th>Description</th></tr> </thead> <tbody> <tr> <td>3.08</td><td>The <b>interface spatial-reuse</b> command has been introduced.</td></tr> </tbody> </table>                                                                                                        | Version | Description | 3.08 | The <b>interface spatial-reuse</b> command has been introduced. |
| Version                | Description                                                                                                                                                                                                                                                                                                         |         |             |      |                                                                 |
| 3.08                   | The <b>interface spatial-reuse</b> command has been introduced.                                                                                                                                                                                                                                                     |         |             |      |                                                                 |

### 3.25.177 interface speed

|                        |                                                                                                                                                      |
|------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Description</b>     | <p>Configure the speed of the Ethernet interface. By default, auto value is set.</p> <p>Command with <b>no</b> prefix resets setting to default.</p> |
| <b>Prefix no</b>       | Yes                                                                                                                                                  |
| <b>Change settings</b> | Yes                                                                                                                                                  |
| <b>Multiple input</b>  | No                                                                                                                                                   |
| <b>Interface type</b>  | Ethernet                                                                                                                                             |
| <b>Synopsis</b>        | <pre>(config-if)&gt; <b>speed (10   100   1000   auto)</b></pre> <pre>(config-if)&gt; <b>no speed</b></pre>                                          |

**Arguments**

| Argument | Value          | Description                      |
|----------|----------------|----------------------------------|
| 10       | <i>Keyword</i> | Connection speed in Mbit/s.      |
| 100      |                |                                  |
| 1000     |                |                                  |
| auto     | <i>Keyword</i> | Automatical speed configuration. |

**Example**

```
(config-if)> speed 1000
Network::Interface::Ethernet: "GigabitEthernet1/0": speed set ►
to 1000.
```

```
(config-if)> no speed
Network::Interface::Ethernet: "GigabitEthernet1/0": speed reset ►
to default (auto-negotiation).
```

**History**

| Version  | Description                                             |
|----------|---------------------------------------------------------|
| 2.06.B.1 | The <b>interface speed</b> command has been introduced. |

## 3.25.178 interface speed nonegotiate

**Description**

Disable autonegotiation. By default, autonegotiation is enabled.

Command with **no** prefix enables autonegotiation.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

No

**Interface type**

Ethernet

**Synopsis**

```
(config-if)> speed nonegotiate
```

```
(config-if)> no speed nonegotiate
```

**Example**

```
(config-if)> speed nonegotiate
Network::Interface::Ethernet: "GigabitEthernet1/0": ►
autonegotiation will be disabled for fixed speed.
```

```
(config-if)> no speed nonegotiate
Network::Interface::Ethernet: "GigabitEthernet1/0": ►
autonegotiation enabled..
```

**History**

| Version | Description                                                         |
|---------|---------------------------------------------------------------------|
| 2.08    | The <b>interface speed nonegotiate</b> command has been introduced. |

## 3.25.179 interface ssid

**Description** Specify the wireless network name (SSID) for `WiFiStation` and `AccessPoint` interfaces. Depending on the interface type, the SSID value is processed differently.

- For `AccessPoint`, the SSID is a necessary setting, without which the connection will not be accepted.
- For the `WiFiStation` SSID determines which access point `WiFiStation` will connect to. Without a specified SSID, `WiFiStation` can connect to any available wireless network at its discretion.

Command with **no** prefix resets network name to default.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Interface type** WiFi

**Synopsis**

```
(config-if)> ssid <ssid>
(config-if)> no ssid
```

**Arguments**

| Argument | Value         | Description                   |
|----------|---------------|-------------------------------|
| ssid     | <i>String</i> | Wireless Network Name (SSID). |

**Example**

```
(config-if)> ssid MYNETWORK
Network::Interface::Wireless: "WifiMaster0/AccessPoint0": SSID ►
saved.

(config-if)> no ssid
Network::Interface::Rtx::AccessPoint: "WifiMaster0/AccessPoint0": ►
SSID reset.
```

**History**

| Version | Description                                            |
|---------|--------------------------------------------------------|
| 2.00    | The <b>interface ssid</b> command has been introduced. |

## 3.25.180 interface standby enable

**Description** Enable the standby mode. When the standby mode is enabled for an interface, it is automatically turned off when another WAN connection with a higher global priority is up and running.

The standby option is ignored in following cases:

- the global priority is not configured;
- the standby interface is included in a group, such as Bridge;
- the current WAN connection operates over the standby interface.

Command with **no** prefix disables the standby mode.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Synopsis**

```
(config-if)> standby enable
(config-if)> no standby enable
```

**Example**

```
(config-if)> standby enable
Network::Interface::Standby: "CdcEthernet0": enabled.

(config-if)> no standby enable
Network::Interface::Standby: "CdcEthernet0": disabled.
```

**History**

| Version | Description                                                      |
|---------|------------------------------------------------------------------|
| 4.00    | The <b>interface standby enable</b> command has been introduced. |

## 3.25.181 interface storm-control disable

**Description** Enable the broadcast storm control on the Bridge interface. By default, the setting is enabled.

Command with **no** prefix disables the setting.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Interface type** Bridge

**Synopsis**

```
(config-if)> storm-control disable
(config-if)> no storm-control disable
```

**Example**

```
(config-if)> storm-control disable
Network::Interface::Bridge: "Bridge0": disabled storm control and loop detector.
```

```
(config-if)> no storm-control disable
Network::Interface::Bridge: "Bridge0": enabled storm control and ►
loop detector.
```

**History**

| Version | Description                                                             |
|---------|-------------------------------------------------------------------------|
| 4.00    | The <b>interface storm-control disable</b> command has been introduced. |

## 3.25.182 interface switchport access

**Description** Set the port [VLAN](#) ID for access mode. Allows to transfer frames of the specified [VLAN](#) to the port and remove [VLAN](#) marker from the transferred frames.

Command with **no** prefix removes the setting.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Interface type** Port

**Synopsis**

```
(config-if)> switchport access vlan <vid>
(config-if)> no switchport access vlan
```

**Arguments**

| Argument | Value          | Description                                                                              |
|----------|----------------|------------------------------------------------------------------------------------------|
| vid      | <i>Integer</i> | Access <a href="#">VLAN</a> ID. Can take values in the range from 1 to 4094 inclusively. |

**Example**

```
(config-if)> switchport access vlan 1
Network::Interface::Switch: "GigabitEthernet0/0": set access ►
VLAN ID: 1.
```

**History**

| Version | Description                                                         |
|---------|---------------------------------------------------------------------|
| 2.06    | The <b>interface switchport access</b> command has been introduced. |

## 3.25.183 interface switchport friend

**Description** Configure unidirectional [VLAN](#) for multicast traffic in addition to access [VLAN](#). Port can be a member of one access [VLAN](#). This command enables forwarding of downstream traffic from a different [VLAN](#) (called "friend"). Friend packets are transmitted without a tag.

Command with **no** prefix removes the setting.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Interface type** Port

**Synopsis**

```
(config-if)> switchport friend vlan <vid>
(config-if)> no switchport friend vlan
```

**Arguments**

| Argument | Value          | Description                                                                              |
|----------|----------------|------------------------------------------------------------------------------------------|
| vid      | <i>Integer</i> | Friend <a href="#">VLAN</a> ID. Can take values in the range from 1 to 4094 inclusively. |

**Example**

```
(config-if)> switchport friend vlan 2
Network::Interface::Switch: "GigabitEthernet0/0": set friend ►
VLAN ID: 2.
```

**History**

| Version | Description                                                         |
|---------|---------------------------------------------------------------------|
| 2.06    | The <b>interface switchport friend</b> command has been introduced. |

## 3.25.184 interface switchport mode

**Description** Set access or trunk mode for [VLAN](#). By default, access mode is set.

Command with **no** prefix resets setting to default.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Interface type** Port

**Synopsis**

```
(config-if)> switchport mode [ (access [q-in-q]) | trunk ]
(config-if)> no switchport mode
```

**Arguments**

| Argument | Value  | Description                                                                                                                                      |
|----------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------|
| mode     | access | Enable the access mode to a <a href="#">VLAN</a> , that is the mode when only the untagged frames pass through the port. The incoming frames get |

| Argument | Value   | Description                                                                                                                                                                                                                                                                  |
|----------|---------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|          |         | tagged with the PVID marker, which is set with <b>switchport access</b> command. The port is an output one only for <b>VLAN</b> with PVID ID. Once a frame is transferred to the port, the <b>VLAN</b> marker gets removed.                                                  |
|          | trunk   | Enable the <b>VLAN</b> trunk mode, that is the mode when frames belonging to several VLANs get transmitted through the port. In this case each frame gets tagged. The list of IDs of <b>VLAN</b> networks that include the port is set with <b>switchport trunk</b> command. |
| q-in-q   | Keyword | Enable double tagging.                                                                                                                                                                                                                                                       |

**Example**

```
(config-if)> switchport mode access
Network::Interface::Switch: "GigabitEthernet0/1": access mode ►
enabled.
```

**History**

| Version | Description                                                       |
|---------|-------------------------------------------------------------------|
| 2.06    | The <b>interface switchport mode</b> command has been introduced. |

## 3.25.185 interface switchport trunk

**Description**

Add a port to the **VLAN**. Allows receiving and transmitting of the given **VLAN** frames to the port, such that VLAN marker from the transmitted frames is not removed. In the trunk mode it is allowed to add a port to several VLANs.

Command with **no** prefix removes the port from the specified **VLAN**. If you use no argument, the port will be removed from all the VLANs.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

Yes

**Interface type**

Port

**Synopsis**

```
(config-if)> switchport trunk vlan <vid>
```

```
(config-if)> no switchport trunk vlan [ vid ]
```

**Arguments**

| Argument | Value   | Description                                                              |
|----------|---------|--------------------------------------------------------------------------|
| vid      | Integer | <b>VLAN</b> ID. Can take values in the range from 1 to 4094 inclusively. |

**Example**

```
(config-if)> switchport trunk vlan 100
Network::Interface::Switch: "GigabitEthernet0/1": set trunk VLAN ►
ID: 100.
```

**History**

| Version | Description                                                        |
|---------|--------------------------------------------------------------------|
| 2.06    | The <b>interface switchport trunk</b> command has been introduced. |

## 3.25.186 interface target-waketime

**Description**

Enable *TWT (Target Wake Time)* function for AP 2,4 GHz and 5 GHz. By default, the setting for AP 2,4 GHz is disabled, for AP 5 GHz is enabled.

Command with **no** prefix disables the setting.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

No

**Interface type**

WiFiMaster

**Synopsis**

```
(config-if)> target-waketime
```

```
(config-if)> no target-waketime
```

**Example**

```
(config-if)> target-waketime
Network::Interface::Rtx::WifiMaster: "WifiMaster0": 11ax TWT ►
enabled.
```

```
(config-if)> no target-waketime
Network::Interface::Rtx::WifiMaster: "WifiMaster0": 11ax TWT ►
disabled.
```

**History**

| Version | Description                                                       |
|---------|-------------------------------------------------------------------|
| 3.07    | The <b>interface target-waketime</b> command has been introduced. |

## 3.25.187 interface traffic-shape

**Description**

Set the limit of data rate on a specified interface in both directions. By default speed is not limited.

Command with **no** prefix removes the setting.

**Prefix no**

Yes



**Change settings** Yes

**Multiple input** No

**Synopsis**

```
(config-if)> traffic-shape rate <rate> [ asymmetric <upstream-rate> ]
[ schedule <schedule> ]

(config-if)> no traffic-shape
```

**Arguments**

| Argument      | Value           | Description                                                                                |
|---------------|-----------------|--------------------------------------------------------------------------------------------|
| rate          | <i>Integer</i>  | Value of data download rate in Kbps. Limit could be in the range from 64 Kbps to 1 Gbps.   |
| upstream-rate | <i>Integer</i>  | Data upload rate in Kbps. Value can be in the range from 64 Kbps to 1 Gbps.                |
| schedule      | <i>Schedule</i> | The name of the schedule that was created with <a href="#">schedule</a> group of commands. |

**Example**

```
(config-if)> traffic-shape rate 5000
TrafficControl::Manager: "Bridge0" interface rate limited to ►
5000 kbit/s.
```

```
(config-if)> traffic-shape rate 5000 asymmetric 500
TrafficControl::Manager: "Bridge0" interface rate limited to ►
5000/500 kbit/s.
```

```
(config-if)> no traffic-shape
TrafficControl::Manager: Rate limit removed for "Bridge0" ►
interface.
```

**History**

| Version | Description                                                     |
|---------|-----------------------------------------------------------------|
| 2.05    | The <b>interface traffic-shape</b> command has been introduced. |
| 3.04    | The <b>upstream-rate</b> argument was added.                    |

## 3.25.188 interface tunnel destination

**Description** Set the remote end of tunnel. If it is used in conjunction with an automatic [IPSec](#) connection associated with the tunnel, remote host becomes the initiator of an [IPSec](#) connection.

Command with **no** prefix resets the setting.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Interface type** Tunnel**Synopsis**`(config-if)> tunnel destination <destination>``(config-if)> no tunnel destination`**Arguments**

| Argument    | Value         | Description                                   |
|-------------|---------------|-----------------------------------------------|
| destination | <i>String</i> | IP address or domain name of the remote host. |

**Example**

```
(config-if)> tunnel destination example.net
Network::Interface::Tunnel: "Gre0": destination set to ►
example.net.
```

```
(config-if)> no tunnel destination
Network::Interface::Tunnel: "Gre0": destination was reset.
```

**History**

| Version | Description                                                          |
|---------|----------------------------------------------------------------------|
| 2.08    | The <b>interface tunnel destination</b> command has been introduced. |

## 3.25.189 interface tunnel eoip id

**Description**

Set identifier of EoIP tunnel.

Command with **no** prefix resets the setting.**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

No

**Interface type**

Eoip

**Synopsis**`(config-if)> tunnel eoip id <id>``(config-if)> no tunnel eoip id`**Arguments**

| Argument | Value          | Description |
|----------|----------------|-------------|
| id       | <i>Integer</i> | Tunnel ID.  |

**Example**

```
(config-if)> tunnel eoip id 50
Network::Interface::Tunnel: "Gre0": eoip id interface set to auto.
```

```
(config-if)> no tunnel eoip id
Network::Interface::Tunnel: "Gre0": eoip id was reset.
```

**History**

| Version | Description                                                      |
|---------|------------------------------------------------------------------|
| 2.08    | The <b>interface tunnel eoip id</b> command has been introduced. |

## 3.25.190 interface tunnel gre keepalive

**Description**

Enable support of Cisco-like keepalive for GRE tunnel. By default, interval is set to 5, count is set to 3.

Command with **no** prefix removes the setting.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

No

**Interface type**

Tunnel

**Synopsis**

```
(config-if)> tunnel gre keepalive <interval> [count]
```

```
(config-if)> no tunnel gre keepalive
```

**Arguments**

| Argument | Value          | Description                                                                                                                                                                                                        |
|----------|----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| interval | <i>Integer</i> | The interval of sending keepalive packets in seconds. Can take values in the range from 0 to 60. If 0 is set, then GRE keepalive replies is enabled only and the router will not react on the tunnel state change. |
| count    | <i>Integer</i> | Number of attempts to send keepalive packets. Can take values in the range from 1 to 20.                                                                                                                           |

**Example**

```
(config-if)> tunnel gre keepalive 10 7  
Network::Interface::Gre: "Gre0": set GRE keepalive to 10 s (7 ►  
retries).
```

```
(config-if)> no tunnel gre keepalive  
Network::Interface::Gre: "Gre0": disable GRE keepalive.
```

```
(config-if)> tunnel gre keepalive 0  
Network::Interface::Gre: "Gre0": enable only GRE keepalive ►  
replies.
```

**History**

| Version | Description                                                            |
|---------|------------------------------------------------------------------------|
| 2.10    | The <b>interface tunnel gre keepalive</b> command has been introduced. |

## 3.25.191 interface tunnel source

**Description** Set the local end of tunnel. If it is used in conjunction with an automatic *IPSec* connection associated with the tunnel, then the reception mode of IPsec IKE connections is activated to establish a secure tunnel.

**Prefix no** No

**Change settings** Yes

**Multiple input** No

**Interface type** Tunnel

**Synopsis** (config-if)> **tunnel source** (**auto** | *<interface>* | *<address>*)

### Arguments

| Argument  | Value             | Description                            |
|-----------|-------------------|----------------------------------------|
| auto      | <i>Keyword</i>    | Set the current working WAN interface. |
| interface | <i>Interface</i>  | Full interface name or an alias.       |
| address   | <i>IP address</i> | Local IP-address of the tunnel.        |

### Example

```
(config-if)> tunnel source auto
Network::Interface::Tunnel: "Gre0": set source interface to auto.
```

### History

| Version | Description                                                     |
|---------|-----------------------------------------------------------------|
| 2.08    | The <b>interface tunnel source</b> command has been introduced. |
| 2.09    | The <b>auto</b> argument has been added.                        |
| 3.08    | The <b>no</b> prefix was removed as obsolete.                   |

## 3.25.192 interface tx-burst

**Description** Enable Wi-Fi packet aggregation (Tx Burst). By default, the setting is disabled.  
Command with **no** prefix disables the setting.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Synopsis** (config-if)> **tx-burst**  
(config-if)> **no tx-burst**

**Example**

```
(config-if)> tx-burst
Network::Interface::Rtx::WifiMaster: Tx Burst enabled.
```

**History**

| Version | Description                                                |
|---------|------------------------------------------------------------|
| 2.07    | The <b>interface tx-burst</b> command has been introduced. |

## 3.25.193 interface tx-queue length

**Description**

Set the size of the queue of outgoing packets on the interface. By default, 1000 value is set.

Command with **no** prefix resets to default.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

No

**Synopsis**

```
(config-if)> tx-queue length <length>
```

```
(config-if)> no tx-queue length
```

**Arguments**

| Argument | Value          | Description                                                |
|----------|----------------|------------------------------------------------------------|
| length   | <i>Integer</i> | Queue length can take values in the range from 0 to 65536. |

**Example**

```
(config-if)> tx-queue length 255
Network::Interface::Base: "L2TP0": TX queue length is 255.
```

```
(config-if)> no tx-queue length
Network::Interface::Base: "L2TP0": TX queue length reset to ►
default.
```

**History**

| Version | Description                                                       |
|---------|-------------------------------------------------------------------|
| 3.06    | The <b>interface tx-queue length</b> command has been introduced. |

## 3.25.194 interface tx-queue scheduler cake

**Description**

Set the [CAKE](#) package scheduler for the interface. By default, the value cake is used for DSL and USB-modem interfaces, fq\_code1 — for all others.

Command with **no** prefix resets the scheduler to default.

**Prefix no**

Yes

**Change settings** Yes**Multiple input** No

**Synopsis**

```
(config-if)> tx-queue scheduler cake
```

```
(config-if)> no tx-queue scheduler cake
```

**Example**

```
(config-if)> tx-queue scheduler cake
Network::Interface::Base: "L2TP0": set TX queue scheduler to ►
"cake".
```

```
(config-if)> no tx-queue scheduler cake
Network::Interface::Base: "L2TP0": set default TX queue scheduler.
```

**History**

| Version | Description                                                               |
|---------|---------------------------------------------------------------------------|
| 3.06    | The <b>interface tx-queue scheduler cake</b> command has been introduced. |

## 3.25.195 interface tx-queue scheduler fq\_codel

**Description** Set the [FQ\\_CODEL](#) package scheduler for the interface. By default, the value cake is used for DSL and USB-modem interfaces, fq\_codel — for all others.

Command with **no** prefix resets the scheduler to default.

**Prefix no** Yes**Change settings** Yes**Multiple input** No

**Synopsis**

```
(config-if)> tx-queue scheduler fq_codel
```

```
(config-if)> no tx-queue scheduler fq_codel
```

**Example**

```
(config-if)> tx-queue scheduler fq_codel
Network::Interface::Base: "L2TP0": set TX queue scheduler to ►
"fq_codel".
```

```
(config-if)> no tx-queue scheduler fq_codel
Network::Interface::Base: "L2TP0": set default TX queue scheduler.
```

**History**

| Version | Description                                                                   |
|---------|-------------------------------------------------------------------------------|
| 3.06    | The <b>interface tx-queue scheduler fq_codel</b> command has been introduced. |

## 3.25.196 interface up

| <b>Description</b>     | <p>Enable the network interface and persist the state “up” to the settings.</p> <p>Command with <b>no</b> prefix disables the the network interface and deletes “up” from settings. Also <b>interface down</b> command can be used.</p> |         |             |      |                                                      |
|------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|-------------|------|------------------------------------------------------|
| <b>Prefix no</b>       | Yes                                                                                                                                                                                                                                     |         |             |      |                                                      |
| <b>Change settings</b> | Yes                                                                                                                                                                                                                                     |         |             |      |                                                      |
| <b>Multiple input</b>  | No                                                                                                                                                                                                                                      |         |             |      |                                                      |
| <b>Synopsis</b>        | <pre>(config-if)&gt; up</pre> <pre>(config-if)&gt; no up</pre>                                                                                                                                                                          |         |             |      |                                                      |
| <b>Example</b>         | <pre>(config-if)&gt; up</pre> <p>Interface enabled.</p>                                                                                                                                                                                 |         |             |      |                                                      |
| <b>History</b>         | <table border="1"> <thead> <tr> <th>Version</th><th>Description</th></tr> </thead> <tbody> <tr> <td>2.00</td><td>The <b>interface up</b> command has been introduced.</td></tr> </tbody> </table>                                       | Version | Description | 2.00 | The <b>interface up</b> command has been introduced. |
| Version                | Description                                                                                                                                                                                                                             |         |             |      |                                                      |
| 2.00                   | The <b>interface up</b> command has been introduced.                                                                                                                                                                                    |         |             |      |                                                      |

## 3.25.197 interface uplink-mumimo

|                        |                                                                                                                                                                                                                                                                         |
|------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Description</b>     | <p>Enable 802.11ax uplink MU-MIMO. By default, the feature is enabled.</p> <p>Command with <b>no</b> prefix disables the feature.</p>                                                                                                                                   |
| <b>Prefix no</b>       | Yes                                                                                                                                                                                                                                                                     |
| <b>Change settings</b> | Yes                                                                                                                                                                                                                                                                     |
| <b>Multiple input</b>  | No                                                                                                                                                                                                                                                                      |
| <b>Interface type</b>  | WiFiMaster                                                                                                                                                                                                                                                              |
| <b>Synopsis</b>        | <pre>(config-if)&gt; uplink-mumimo</pre> <pre>(config-if)&gt; no uplink-mumimo</pre>                                                                                                                                                                                    |
| <b>Example</b>         | <pre>(config-if)&gt; uplink-mumimo</pre> <p>Network::Interface::Rtx::WifiMaster: "WifiMaster1": 11ax ► uplink-mumimo enabled.</p> <pre>(config-if)&gt; no uplink-mumimo</pre> <p>Network::Interface::Rtx::WifiMaster: "WifiMaster1": 11ax ► uplink-mumimo disabled.</p> |

**History**

| Version | Description                                                     |
|---------|-----------------------------------------------------------------|
| 3.07    | The <b>interface uplink-mumimo</b> command has been introduced. |

## 3.25.198 interface uplink-ofdma

**Description**

Enable 802.11ax uplink [OFDMA](#). By default, the feature is disabled.

Command with **no** prefix disables the feature.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

No

**Interface type**

WiFiMaster

**Synopsis**

```
(config-if)> uplink-ofdma
```

```
(config-if)> no uplink-ofdma
```

**Example**

```
(config-if)> uplink-ofdma
Network::Interface::Rtx::WifiMaster: "WifiMaster1": 11ax ►
downlink-ofdma enabled.
```

```
(config-if)> no uplink-ofdma
Network::Interface::Rtx::WifiMaster: "WifiMaster1": 11ax ►
downlink-ofdma disabled.
```

**History**

| Version | Description                                                    |
|---------|----------------------------------------------------------------|
| 3.07    | The <b>interface uplink-ofdma</b> command has been introduced. |

## 3.25.199 interface vlan qos egress map

**Description**

Configure [NTCE](#) priority mapping to [IEEE P802.1p](#)<sup>14</sup> PCP for outgoing packets. By default, value 0 is used.

Command with **no** prefix resets the [IEEE P802.1p](#)<sup>15</sup> PCP value to default.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

Yes

<sup>14</sup> [https://en.wikipedia.org/wiki/IEEE\\_P802.1p](https://en.wikipedia.org/wiki/IEEE_P802.1p)

<sup>15</sup> [https://en.wikipedia.org/wiki/IEEE\\_P802.1p](https://en.wikipedia.org/wiki/IEEE_P802.1p)



**Interface type** Ethernet

**Synopsis**

```
(config-if)> vlan qos egress map <priority> <pcp>
```

```
(config-if)> no vlan qos egress map [<priority>]
```

**Arguments**

| Argument | Value   | Description                                                                                                                                                |
|----------|---------|------------------------------------------------------------------------------------------------------------------------------------------------------------|
| priority | Integer | <a href="#">NTCE</a> priority number. Can take values in the range from 0 to 7 inclusively. If the value is 0, all outgoing packets will receive this PCP. |
| pcp      | Integer | The new value of the <a href="#">IEEE P802.1p</a> <sup>16</sup> priority code point.                                                                       |

**Example**

```
(config-if)> vlan qos egress map 0 2
```

```
Network::Interface::Vlan: "GigabitEthernet0/Vlan1": enabled ►  
mapping priority 0 to PCP 2.
```

```
(config-if)> no vlan qos egress map 0
```

```
Network::Interface::Vlan: "GigabitEthernet0/Vlan1": reset PCP ►  
mapping for priority 0.
```

**History**

| Version | Description                                                           |
|---------|-----------------------------------------------------------------------|
| 4.02    | The <b>interface vlan qos egress map</b> command has been introduced. |

## 3.25.200 interface whnat

**Description**

Enable WHNAT (wireless hardware accelerator) for AP 5 GHz. The accelerator is used when transmitting traffic between LAN and WLAN clients of the same network segment. When HWNAT (hardware accelerator) is off, WHNAT (wireless hardware accelerator) works through SWNAT (software accelerator), which reduces the speed in the LAN-WLAN direction. By default, the setting is enabled.

Command with **no** prefix disables the accelerator.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Interface type** WiFiMaster

**Synopsis**

```
(config-if)> whnat
```

```
(config-if)> no whnat
```

<sup>16</sup> [https://en.wikipedia.org/wiki/IEEE\\_P802.1p](https://en.wikipedia.org/wiki/IEEE_P802.1p)

**Example**

```
(config-if)> whnat
Network::Interface::Rtx::WifiMaster: "WifiMaster1": wireless ►
hardware NAT offload is enabled.
```

```
(config-if)> no whnat
Network::Interface::Rtx::WifiMaster: "WifiMaster1": wireless ►
hardware NAT offload is disabled.
```

**History**

| Version | Description                                             |
|---------|---------------------------------------------------------|
| 3.09    | The <b>interface whnat</b> command has been introduced. |

## 3.25.201 interface wireguard asc

**Description**

Configure the Advanced Security Configuration setting for [WireGuard](#).

Command with **no** prefix removes the setting.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

No

**Interface type**

Wireguard

**Synopsis**

```
(config-if)> wireguard asc <jc> <jmin> <jmax> <s1> <s2> <h1> <h2> <h3> <h4>
```

```
(config-if)> no wireguard asc
```

**Arguments**

| Argument | Value         | Description                                                                                                             |
|----------|---------------|-------------------------------------------------------------------------------------------------------------------------|
| jc       | <i>String</i> | The number of packets with random data that are sent before the start of the session.                                   |
| jmin     | <i>String</i> | The minimum packet size for Junk packet. That is, all randomly generated packets will have a size no smaller than Jmin. |
| jmax     | <i>String</i> | The maximum size for Junk packets.                                                                                      |
| s1       | <i>String</i> | The size of random data that will be added to the init packet.                                                          |
| s2       | <i>String</i> | The size of random data that will be added to the response packet.                                                      |
| h1       | <i>String</i> | The header of the first byte of the handshake.                                                                          |
| h2       | <i>String</i> | The header of the first byte of the handshake response.                                                                 |
| h3       | <i>String</i> | UnderLoad packet header.                                                                                                |
| h4       | <i>String</i> | The header of the packet of the data packet. The interval of keepalive packet sending in seconds.                       |

**Example**

```
(config-if)> wireguard asc 120 22 320 0 0 1 2 3 4
Wireguard::Interface: "Wireguard0": set ASC parameters.
```

```
(config-if)> no wireguard asc
Wireguard::Interface: "Wireguard0": reset ASC parameters.
```

**History**

| Version | Description                                                     |
|---------|-----------------------------------------------------------------|
| 4.02    | The <b>interface wireguard asc</b> command has been introduced. |

## 3.25.202 interface wireguard listen-port

**Description**

Specify [UDP](#) port number to which incoming connections are accepted. By default, port number is not defined.

Command with **no** prefix resets the port.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

No

**Interface type**

Wireguard

**Synopsis**

```
(config-if)> wireguard listen-port <port>
```

```
(config-if)> no wireguard listen-port
```

**Arguments**

| Argument | Value          | Description                                                            |
|----------|----------------|------------------------------------------------------------------------|
| port     | <i>Integer</i> | Port number. Can take values in the range from 1 to 65535 inclusively. |

**Example**

```
(config-if)> wireguard listen-port 11633
Wireguard::Interface: "Wireguard4": set listen port to "11633".
```

```
(config-if)> no wireguard listen-port
Wireguard::Interface: "Wireguard4": reset listen port.
```

**History**

| Version | Description                                                             |
|---------|-------------------------------------------------------------------------|
| 3.03    | The <b>interface wireguard listen-port</b> command has been introduced. |

## 3.25.203 interface wireguard obfs-key

**Description**

Configure the obfuscation key, compatible with DD-WRT firmware.

Command with **no** prefix removes the setting.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Interface type** Wireguard

**Synopsis**

```
(config-if)> wireguard obfs-key <obfs-key>
(config-if)> no wireguard obfs-key
```

**Arguments**

| Argument | Value         | Description                                                                                                                                        |
|----------|---------------|----------------------------------------------------------------------------------------------------------------------------------------------------|
| obfs-key | <i>String</i> | Value of the key. Latin letters, numbers, dots, hyphens and underscores are acceptable. The key length should be between 1 and 32 characters long. |

**Example**

```
(config-if)> wireguard obfs-key 5(-3*3RA{2&kay)_BbQs5a-J8Dq)%b*G
Wireguard::Interface: "Wireguard1": set obfs key for peer ►
"bmXOC+23451xEMF9dyiK2H5/1SutzH0JuVo51h2wPfgyo=".
```

```
(config-if)> no wireguard obfs-key
Wireguard::Interface: "Wireguard3": reset obfs key.
```

**History**

| Version | Description                                                          |
|---------|----------------------------------------------------------------------|
| 5.00    | The <b>interface wireguard obfs-key</b> command has been introduced. |

## 3.25.204 interface wireguard peer

**Description** Add the remote peer public key to configure the secure connection using the [WireGuard](#) protocol.

Command with **no** prefix removes specified key.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** Yes

**Interface type** Wireguard

**Group entry** (config-wg-peer)

**Synopsis**

```
(config-if)> wireguard peer <key>
```

```
(config-if)> no wireguard peer <key>
```

**Arguments**

| Argument | Value         | Description                                                                                                                                              |
|----------|---------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|
| key      | <i>String</i> | Value of the key. Latin letters, numbers and equal signs are acceptable. The key length is 44 characters (Base64-encoded 32-byte string representation). |

**Example**

```
(config-if)> wireguard peer ►
gbplgW3pBQKssrAdah1hiib13Jl123ZM8dBIjjPmm0g=
(config-wg-peer)>
```

```
(config-if)> no wireguard peer ►
gbplgW3pBQKssrAdah1hiib13Jl123ZM8dBIjjPmm0g=
Wireguard::Interface: "Wireguard4": removed peer ►
"gbplgW3pBQKssrAdah1hiib13Jl123ZM8dBIjjPmmg0=".
```

**History**

| Version | Description                                                      |
|---------|------------------------------------------------------------------|
| 3.03    | The <b>interface wireguard peer</b> command has been introduced. |

**3.25.204.1 interface wireguard peer allow-ips****Description**

Add the subnet of IP addresses to which the transmission of packets inside the tunnel is allowed.

Note: You can add 0.0.0.0/0 subnet to allow transmission to any addresses.

Command with **no** prefix removes the subnet. If you use no argument, the entire list of subnets will be removed.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

Yes

**Interface type**

Wireguard

**Synopsis**

```
(config-wg-peer)> allow-ips <address> <mask>
```

```
(config-wg-peer)> no allow-ips [ <address> <mask> ]
```

**Arguments**

| Argument | Value             | Description                                                                      |
|----------|-------------------|----------------------------------------------------------------------------------|
| address  | <i>IP address</i> | Together with mask <i>mask</i> sets the subnet of IP addresses to be translated. |

| Argument | Value          | Description                                                                                                                                                 |
|----------|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|
| mask     | <i>IP-mask</i> | Mask of subnet. There are two ways to enter the mask: the canonical form (for example, 255.255.255.0) and the form of prefix bit length (for example, /24). |

**Example**

```
(config-wg-peer)> allow-ips 0.0.0.0/0
```

```
Wireguard::Interface: "Wireguard4": add allowed IPs ►  
"0.0.0.0/0.0.0.0" from peer ►  
"gbplgW3pBQKssrAdah1hiib13Jl123ZM8dBIjjPmm2g=".
```

```
(config-wg-peer)> allow-ips 192.168.11.0 255.255.255.0
```

```
Wireguard::Interface: "Wireguard4": add allowed IPs ►  
"192.168.11.0/255.255.255.0" from peer ►  
"gbplgW3pBQKssrAdah1hiib13Jl123ZM8dBIjjPmm2g=".
```

```
(config-wg-peer)> no allow-ips
```

```
Wireguard::Interface: "Wireguard4": clear allowed IPs of peer ►  
"gbplgW3pBQKssrAdah1hiib13Jl123ZM8dBIjjPmm2g=".
```

**History**

| Version | Description                                                                |
|---------|----------------------------------------------------------------------------|
| 3.03    | The <b>interface wireguard peer allow-ips</b> command has been introduced. |

**3.25.204.2 interface wireguard peer client-id send**

**Description** Configure the client ID for sending in message headers for [WireGuard](#).

Command with **no** prefix removes the setting.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Interface type** Wireguard

**Synopsis** `(config-wg-peer)> client-id send <client-id>`

`(config-wg-peer)> no client-id send`

**Arguments**

| Argument  | Value         | Description                                                                                                                                                      |
|-----------|---------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| client-id | <i>String</i> | Decimal number obtained by simple hexadecimal translation, for example: from 0x1620a6 you get simply 1450150. Client ID must be in the range from 1 to 16777215. |

**Example**

```
(config-wg-peer)> client-id send 1450150
Wireguard::Interface: "Wireguard3": set peer ►
"4G0SzB1231234413PevDG4dy0Y/TCXG8fnKf20Ldjs=" send client ID to ►
"1450150".
```

```
(config-wg-peer)> no client-id send
Wireguard::Interface: "Wireguard3": reset send client ID for ►
peer "4G0SzB1231234413PevDG4dy0Y/TCXG8fnKf20Ldjs=".
```

**History**

| Version | Description                                                                     |
|---------|---------------------------------------------------------------------------------|
| 4.02    | The <b>interface wireguard peer client-id send</b> command has been introduced. |

**3.25.204.3 interface wireguard peer connect****Description**

Set interface for WireGuard peer connection. By default, connection is set via any interface.

Command with **no** prefix resets value to default.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

No

**Interface type**

WireGuard

**Synopsis**

```
(config-wg-peer)> connect via <via>
```

```
(config-wg-peer)> no connect
```

**Arguments**

| Argument | Value            | Description                      |
|----------|------------------|----------------------------------|
| via      | <i>Interface</i> | Full interface name or an alias. |

**Example**

```
(config-wg-peer)> connect via ISP
Wireguard::Interface: "Wireguard0": set peer ►
"IrtvFcVtI5wcqxn4cCmuWc+p8s8byP0zK/MAI67VmXs=" connect via "ISP"
```

```
(config-wg-peer)> no connect
Wireguard::Interface: "Wireguard0": disabled peer ►
"IrtvFcVtI5wcqxn4cCmuWc+p8s8byP0zK/MAI67VmXs=".
```

**History**

| Version | Description                                                              |
|---------|--------------------------------------------------------------------------|
| 4.01    | The <b>interface wireguard peer connect</b> command has been introduced. |

### 3.25.204.4 interface wireguard peer endpoint

**Description** Set the remote peer address to which the *WireGuard* connection will be established.

Command with **no** prefix removes the endpoint.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Interface type** Wireguard

**Synopsis**

```
(config-wg-peer)> endpoint <address> [:<port>]
```

```
(config-wg-peer)> no endpoint
```

**Arguments**

| Argument | Value             | Description                              |
|----------|-------------------|------------------------------------------|
| address  | <i>IP address</i> | IP address or domain name of the server. |
| port     | <i>Integer</i>    | The <i>UDP</i> server port.              |

**Example**

```
(config-wg-peer)> endpoint 10.0.1.10:11635
Wireguard::Interface: "Wireguard4": set peer ►
"gbp1gW3pBQKssrAdah1hiib13Jl123ZM8dBIjjPmm2g=" endpoint to ►
"10.0.1.10:11635".
```

```
(config-wg-peer)> no endpoint
Wireguard::Interface: "Wireguard4": reset endpoint for peer ►
"gbp1gW3pBQKssrAdah1hiib13Jl123ZM8dBIjjPmm2g=".
```

**History**

| Version | Description                                                               |
|---------|---------------------------------------------------------------------------|
| 3.03    | The <b>interface wireguard peer endpoint</b> command has been introduced. |

### 3.25.204.5 interface wireguard peer keepalive-interval

**Description** Set the interval of keepalive packet sending for *WireGuard* connection monitoring. By default, the interval is not set.

Command with **no** prefix removes the setting.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Interface type** Wireguard



**Synopsis**

```
(config-wg-peer)> keepalive-interval <interval>
```

```
(config-wg-peer)> no keepalive-interval
```

**Arguments**

| Argument | Value          | Description                                                                                                   |
|----------|----------------|---------------------------------------------------------------------------------------------------------------|
| interval | <i>Integer</i> | The interval of keepalive packet sending in seconds. Can take values in the range from 3 to 3600 inclusively. |

**Example**

```
(config-wg-peer)> keepalive-interval 3
Wireguard::Interface: "Wireguard4": set peer ►
"gbplgW3pBQKssrAdah1hiib13Jl123ZM8dBIjjPmm2g=" keepalive interval ►
to "3".
```

```
(config-wg-peer)> no keepalive-interval
Wireguard::Interface: "Wireguard4": reset persistent keepalive ►
interval for peer "gbplgW3pBQKssrAdah1hiib13Jl123ZM8dBIjjPmm2g=".
```

**History**

| Version | Description                                                                         |
|---------|-------------------------------------------------------------------------------------|
| 3.03    | The <b>interface wireguard peer keepalive-interval</b> command has been introduced. |

**3.25.204.6 interface wireguard peer obfs-key****Description**

Configure the obfuscation key for the selected [WireGuard](#) peer.

Command with **no** prefix removes the setting.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

No

**Interface type**

Wireguard

**Synopsis**

```
(config-wg-peer)> obfs-key <obfs-key>
```

```
(config-wg-peer)> no obfs-key
```

**Arguments**

| Argument | Value         | Description                                                                                                                                        |
|----------|---------------|----------------------------------------------------------------------------------------------------------------------------------------------------|
| obfs-key | <i>String</i> | Value of the key. Latin letters, numbers, dots, hyphens and underscores are acceptable. The key length should be between 1 and 32 characters long. |

**Example**

```
(config-wg-peer)> obfs-key 5(-33RA{2&kay)_BbQs5a-J8Dq)%bG
Wireguard::Interface: "Wireguard3": set obfs key for peer ►
"bmX0C+F1FxEMF9dyiK2H5/1SutzH0JuVo51h2wPfgyo=".
```

```
(config-wg-peer)> no obfs-key
Wireguard::Interface: "Wireguard3": reset obfs key for peer ►
"bmX0C+F1FxEMF9dyiK2H5/1SutzH0JuVo51h2wPfgyo=".
```

**History**

| Version | Description                                                               |
|---------|---------------------------------------------------------------------------|
| 5.00    | The <b>interface wireguard peer obfs-key</b> command has been introduced. |

**3.25.204.7 interface wireguard peer preshared-key****Description**

Set preshared key for [WireGuard](#) connection to remote peer. The preshared key (PSK) is an optional security improvement as per the [WireGuard](#) protocol and should be a unique PSK per client for highest security. By default, PSK is not used.

Command with **no** prefix removes the setting.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

No

**Interface type**

Wireguard

**Synopsis**

```
(config-wg-peer)> preshared-key <preshared-key>
```

```
(config-wg-peer)> no preshared-key
```

**Arguments**

| Argument      | Value         | Description                                                                                                   |
|---------------|---------------|---------------------------------------------------------------------------------------------------------------|
| preshared-key | <i>String</i> | Secret PSK key value. Latin letters, numbers and equal signs are acceptable. The key length is 44 characters. |

**Example**

```
(config-wg-peer)> preshared-key ►
WY2fkhJZuDcbYew7L8whBMzkReVf8KKzWJrmaR79F8z=
Wireguard::Interface: "Wireguard4": set preshared key for peer ►
"gbplgW3pBQKssrAdahlhiib13Jl123ZM8dBIjjPmm2g=".
```

```
(config-wg-peer)> no preshared-key
Wireguard::Interface: "Wireguard4": reset preshared key for peer ►
"gbplgW3pBQKssrAdahlhiib13Jl123ZM8dBIjjPmm2g=".
```

| History | Version | Description                                                                    |
|---------|---------|--------------------------------------------------------------------------------|
|         | 3.03    | The <b>interface wireguard peer preshared-key</b> command has been introduced. |

### 3.25.205 interface wireguard private-key

**Description** Set or generate the private key to connect to the remote peers via [WireGuard](#) protocol. By default, private key is not configured.

**Prefix no** No

**Change settings** No

**Multiple input** No

**Interface type** Wireguard

**Synopsis** `(config-if)> wireguard private-key [ <private-key> ]`

| Arguments | Argument    | Value         | Description                                                                                                      |
|-----------|-------------|---------------|------------------------------------------------------------------------------------------------------------------|
|           | private-key | <i>String</i> | A new private key value. Latin letters, numbers and equal signs are acceptable. The key length is 44 characters. |

**Example** `(config-if)> wireguard private-key`  
Wireguard::Interface: "Wireguard4": generated new private key.

```
(config-if)> wireguard private-key ►
UshaeghezaiJ7reo8iK6ear0eomujohkeen8jahX5uo=
Wireguard::Interface: "Wireguard4": set private key.
```

| History | Version | Description                                                             |
|---------|---------|-------------------------------------------------------------------------|
|         | 3.03    | The <b>interface wireguard private-key</b> command has been introduced. |

### 3.25.206 interface wmm

**Description** Enable [WMM](#) on the interface.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Interface type** Access Point

**Synopsis**

```
(config-if)> wmm
```

```
(config-if)> no wmm
```

**Example**

```
(config-if)> wmm
WMM extensions enabled.
```

**History**

| Version | Description                                           |
|---------|-------------------------------------------------------|
| 2.00    | The <b>interface wmm</b> command has been introduced. |

## 3.25.207 interface wpa-eap radius secret

**Description**

Specify the shared secret for secure communication between a [RADIUS](#) server and a [RADIUS](#) client.

Command with **no** prefix deletes the shared secret.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

No

**Interface type**

Bridge

**Synopsis**

```
(config-if)> wpa-eap radius secret <secret>
```

```
(config-if)> no wpa-eap radius secret
```

**Arguments**

| Argument | Value         | Description                                                                             |
|----------|---------------|-----------------------------------------------------------------------------------------|
| secret   | <i>String</i> | The value of <a href="#">RADIUS</a> shared secret. Maximum key length is 64 characters. |

**Example**

```
(config-if)> wpa-eap radius secret ►
(>R#G`}-JNxru'i8i|lK}wBN9E^X0Xa{xFOG-N^%FaTnr|S(e(q$/lP2/tbX/#Q
Network::Interface::Rtx::WpaEap: Bridge0 RADIUS secret applied.
```

```
(config-if)> no wpa-eap radius secret
Network::Interface::Rtx::WpaEap: Bridge0 RADIUS secret cleared.
```

**History**

| Version | Description                                                             |
|---------|-------------------------------------------------------------------------|
| 3.01    | The <b>interface wpa-eap radius secret</b> command has been introduced. |

### 3.25.208 interface wpa-eap radius server

**Description** Specify [RADIUS](#) server address.  
Command with **no** prefix deletes the address.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Interface type** Bridge

**Synopsis**

```
(config-if)> wpa-eap radius server <address> [:<port> ]
(config-if)> no wpa-eap radius server
```

**Arguments**

| Argument | Value             | Description                               |
|----------|-------------------|-------------------------------------------|
| address  | <i>IP address</i> | <a href="#">RADIUS</a> server IP address. |
| port     | <i>Integer</i>    | <a href="#">RADIUS</a> server port.       |

**Example**

```
(config-if)> wpa-eap radius server 192.168.10.10
Network::Interface::Rtx::WpaEap: Bridge0 RADIUS server set to ►
192.168.10.10.
```

```
(config-if)> wpa-eap radius server 192.168.10.10:1111
Network::Interface::Rtx::WpaEap: Bridge0 RADIUS server set to ►
192.168.10.10:1111.
```

```
(config-if)> no wpa-eap radius server
Network::Interface::Rtx::WpaEap: Bridge0 RADIUS server cleared.
```

**History**

| Version | Description                                                             |
|---------|-------------------------------------------------------------------------|
| 3.01    | The <b>interface wpa-eap radius server</b> command has been introduced. |

### 3.25.209 interface wps

**Description** Enable [WPS](#) functionality.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Interface type** WiFi

**Synopsis**

```
(config-if)> wps
```

```
(config-if)> no wps
```

**Example**

```
(config-if)> wps
WPS functionality enabled.
```

**History**

| Version | Description                                           |
|---------|-------------------------------------------------------|
| 2.00    | The <b>interface wps</b> command has been introduced. |

## 3.25.210 interface wps auto-self-pin

**Description**

Enable [WPS](#) auto-self-pin mode. By default auto-self-pin mode is enabled.  
Command with **no** prefix disables this mode.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

No

**Interface type**

WiFi

**Synopsis**

```
(config-if)> wps auto-self-pin
```

```
(config-if)> no wps auto-self-pin
```

**Example**

```
(config-if)> wps auto-self-pin
Network::Interface::Rtx::Wps: an auto self PIN mode enabled.
```

**History**

| Version | Description                                                         |
|---------|---------------------------------------------------------------------|
| 2.04    | The <b>interface wps auto-self-pin</b> command has been introduced. |

## 3.25.211 interface wps button

**Description**

Start WPS process using a software button. Process takes 2 minutes or until the first connection occurred.

**Prefix no**

No

**Change settings**

No

**Multiple input**

No

**Interface type**

WiFi

**Synopsis**

```
(config-if)> wps button <direction>
```

**Arguments**

| Argument  | Value   | Description                               |
|-----------|---------|-------------------------------------------|
| direction | send    | Send WiFi configuration.                  |
|           | receive | Receive WiFi configuration from Sprinter. |

**Example**

```
(config-if)> wps button send
Sending WiFi configuration process started (software button mode).
```

**History**

| Version | Description                                                  |
|---------|--------------------------------------------------------------|
| 2.00    | The <b>interface wps button</b> command has been introduced. |

## 3.25.212 interface wps peer

**Description**

Start WPS process using remote peer's PIN. Process takes 2 minutes or until the first connection occurred. By default, WPS PIN is disabled.

**Prefix no**

No

**Change settings**

No

**Multiple input**

No

**Interface type**

WiFi

**Synopsis**

```
(config-if)> wps peer <direction> <pin>
```

**Arguments**

| Argument  | Value         | Description                                      |
|-----------|---------------|--------------------------------------------------|
| direction | send          | Send WiFi configuration.                         |
|           | receive       | Receive WiFi configuration from the remote peer. |
| pin       | <i>String</i> | PIN code of the remote peer.                     |

**Example**

```
(config-if)> wps peer send 53794141
Network::Interface::Rtx::Wps: "WifiMaster0/AccessPoint0": peer ►
PIN WPS session started.
```

**History**

| Version | Description                                                |
|---------|------------------------------------------------------------|
| 2.04    | The <b>interface wps peer</b> command has been introduced. |

### 3.25.213 interface wps self-pin

**Description** Start WPS process using self PIN. Process takes 2 minutes or until the first connection occur.

**Prefix no** No

**Change settings** No

**Multiple input** No

**Interface type** WiFi

**Synopsis** `(config-if)> wps self-pin <direction>`

**Arguments**

| Argument  | Value   | Description                               |
|-----------|---------|-------------------------------------------|
| direction | send    | Send WiFi configuration.                  |
|           | receive | Receive WiFi configuration from Sprinter. |

**Example**

```
(config-if)> wps self-pin receive
Receiving WiFi configuration process started (self PIN mode).
```

**History**

| Version | Description                                                    |
|---------|----------------------------------------------------------------|
| 2.00    | The <b>interface wps self-pin</b> command has been introduced. |

### 3.25.214 interface zerotier accept-addresses

**Description** Enable address accepting from the [ZeroTier](#) server.

Command with **no** prefix disables the feature.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Interface type** ZeroTier

**Synopsis** `(config-if)> zerotier accept-addresses`

`(config-if)> no zerotier accept-addresses`

**Example**

```
(config-if)> zerotier accept-addresses
ZeroTier::Interface: "ZeroTier0": enabled addresses accept.
```

```
(config-if)> no zerotier accept-addresses
ZeroTier::Interface: "ZeroTier0": disabled addresses accept.
```



| History | Version | Description                                                                 |
|---------|---------|-----------------------------------------------------------------------------|
|         | 4.01    | The <b>interface zerotier accept-addresses</b> command has been introduced. |

### 3.25.215 interface zerotier accept-routes

**Description** Enable receiving routes from a remote side via [ZeroTier](#).

Command with **no** prefix disables the feature.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Interface type** ZeroTier

**Synopsis**

```
(config-if)> zerotier accept-routes
(config-if)> no zerotier accept-routes
```

**Example**

```
(config-if)> zerotier accept-routes
ZeroTier::Interface: "ZeroTier0": enabled routes accept.
```

```
(config-if)> no zerotier accept-routes
ZeroTier::Interface: "ZeroTier0": disabled routes accept.
```

| History | Version | Description                                                              |
|---------|---------|--------------------------------------------------------------------------|
|         | 4.01    | The <b>interface zerotier accept-routes</b> command has been introduced. |

### 3.25.216 interface zerotier connect

**Description** Set interface for [ZeroTier](#) connection. If you use no argument, connection is set via any interface.

Command with **no** prefix resets value to default.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Interface type** ZeroTier

**Synopsis**

```
(config-if)> zerotier connect [ via <via> ]
```

```
(config-if)> no zerotier connect
```

**Arguments**

| Argument | Value            | Description                      |
|----------|------------------|----------------------------------|
| via      | <i>Interface</i> | Full interface name or an alias. |

**Example**

```
(config-if)> zerotier connect via ISP
ZeroTier::Interface: "ZeroTier0": set connection via ISP.
```

```
(config-if)> no zerotier connect
ZeroTier::Interface: "ZeroTier0": set connection via any ►
interface.
```

**History**

| Version | Description                                                        |
|---------|--------------------------------------------------------------------|
| 4.01    | The <b>interface zerotier connect</b> command has been introduced. |

## 3.25.217 interface zerotier network-id

**Description**

Set identifier of *ZeroTier* tunnel.

Command with **no** prefix resets the setting.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

No

**Interface type**

ZeroTier

**Synopsis**

```
(config-if)> zerotier network-id <network-id>
```

```
(config-if)> no zerotier network-id
```

**Arguments**

| Argument   | Value         | Description |
|------------|---------------|-------------|
| network-id | <i>String</i> | Tunnel ID.  |

**Example**

```
(config-if)> zerotier network-id 816227940c13c37e
ZeroTier::Interface: "ZeroTier0": set network ID to ►
"816227940c13c37e".
```

```
(config-if)> no zerotier network-id
ZeroTier::Interface: "ZeroTier0": reset network ID.
```

**History**

| Version | Description                                                           |
|---------|-----------------------------------------------------------------------|
| 4.01    | The <b>interface zerotier network-id</b> command has been introduced. |

## 3.26 ip arp

**Description**

Set static mapping between an IP address and a MAC address for hosts that do not support dynamic [ARP](#).

Command with **no** prefix removes entry from ARP table. If you use no arguments, the whole list of ARP entries will be removed.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

Yes

**Synopsis**

```
(config)> ip arp <ip> <mac>
```

```
(config)> no ip arp [ <ip> ]
```

**Arguments**

| Argument | Value              | Description                                                                                 |
|----------|--------------------|---------------------------------------------------------------------------------------------|
| ip       | <i>IP address</i>  | IP address in four-part dotted decimal format corresponding to the local data-link address. |
| mac      | <i>MAC address</i> | MAC address as six groups of two hexadecimal digits separated by colons.                    |

**Example**

```
(config)> ip arp 192.168.2.50 a1:2e:84:85:f4:21
Network::ArpTable: Static ARP entry saved.
```

```
(config)> no ip arp 192.168.2.50
Network::ArpTable: Static ARP entry deleted for 192.168.2.50.
```

```
(config)> no ip arp
Network::ArpTable: Static ARP table cleared.
```

**History**

| Version | Description                                    |
|---------|------------------------------------------------|
| 2.00    | The <b>ip arp</b> command has been introduced. |

## 3.27 ip conntrack lockout disable

**Description**

Disable conntrack table protection. By default, the protection is enabled.

Command with **no** prefix enables the feature.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Interface type** IP

**Synopsis**

```
(config)> ip conntrack lockout disable
(config)> no ip conntrack lockout disable
```

**Example**

```
(config)> ip conntrack lockout disable
Conntrack::Lockout: Disabled.
```

```
(config)> no ip conntrack lockout disable
Conntrack::Lockout: Enabled.
```

**History**

| Version | Description                                                          |
|---------|----------------------------------------------------------------------|
| 4.03    | The <b>ip conntrack lockout disable</b> command has been introduced. |

## 3.28 ip conntrack lockout duration

**Description** Set conntrack lockout duration. By default, the value 600 is used.

Command with **no** prefix resets setting to default.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Interface type** IP

**Synopsis**

```
(config)> ip conntrack lockout duration <duration>
```

```
(config)> no ip conntrack lockout duration
```

**Arguments**

| Argument | Value          | Description                                                                      |
|----------|----------------|----------------------------------------------------------------------------------|
| duration | <i>Integer</i> | Lockout duration value in seconds. Can take values in the range from 60 to 3600. |

**Example**

```
(config)> ip conntrack lockout duration 3600
Conntrack::Lockout: Set duration to 3600 s.
```

```
(config)> no ip conntrack lockout duration
Conntrack::Lockout: Reset duration.
```

**History**

| Version | Description                                                           |
|---------|-----------------------------------------------------------------------|
| 4.03    | The <b>ip conntrack lockout duration</b> command has been introduced. |

## 3.29 ip conntrack lockout threshold public

**Description** Set maximum number of connections from public interfaces. By default, the value 80 percent is used.

Command with **no** prefix resets setting to default.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Interface type** IP

**Synopsis**

```
(config)> ip conntrack lockout threshold public <public>
```

```
(config)> no ip conntrack lockout threshold public
```

**Arguments**

| Argument | Value          | Description                                                                                                                        |
|----------|----------------|------------------------------------------------------------------------------------------------------------------------------------|
| public   | <i>Integer</i> | Number of connections as a percentage of the conntrack table size. Can take values in the range from 50 to 99 percent inclusively. |

**Example**

```
(config)> ip conntrack lockout threshold public 99
Conntrack::Lockout: Set threshold to "99".
```

```
(config)> no ip conntrack lockout threshold public
Conntrack::Lockout: Reset threshold.
```

**History**

| Version | Description                                                                   |
|---------|-------------------------------------------------------------------------------|
| 4.03    | The <b>ip conntrack lockout threshold public</b> command has been introduced. |

## 3.30 ip conntrack max-entries

**Description** Set NAT table size for conntrack (used for connection tracking).

**Prefix no** No

**Change settings** Yes

**Multiple input** No

**Interface type** IP

**Synopsis** (config)> **ip conntrack max-entries** *<max-entries>*

**Arguments**

| Argument    | Value          | Description                                 |
|-------------|----------------|---------------------------------------------|
| max-entries | <i>Integer</i> | The maximum number of entries in the table. |

**Example**

```
(config)> ip conntrack max-entries 32768
Core::FileSystem::Proc: System setting saved.
```

**History**

| Version | Description                                                      |
|---------|------------------------------------------------------------------|
| 4.03    | The <b>ip conntrack max-entries</b> command has been introduced. |

## 3.31 ip conntrack sweep threshold

**Description** Set threshold to start cleaning up waiting sessions. By default, the value 70 percent is used.

Command with **no** prefix resets setting to default.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Interface type** IP

**Synopsis**

```
(config)> ip conntrack sweep threshold <threshold>
```

```
(config)> no ip conntrack sweep threshold duration
```

**Arguments**

| Argument  | Value          | Description                                                                                                                                          |
|-----------|----------------|------------------------------------------------------------------------------------------------------------------------------------------------------|
| threshold | <i>Integer</i> | Threshold for cleaning pending sessions as a percentage of the conntrack table size. Can take values in the range from 50 to 99 percent inclusively. |

**Example**

```
(config)> ip conntrack sweep threshold 99
Conntrack::Lockout: Set sweep threshold to "99".
```

```
(config)> no ip conntrack sweep threshold
Conntrack::Lockout: Reset sweep threshold.
```

**History**

| Version | Description                                                          |
|---------|----------------------------------------------------------------------|
| 4.03    | The <b>ip conntrack sweep threshold</b> command has been introduced. |

## 3.32 ip dhcp class

**Description**

Access to a group of commands to configure [DHCP](#) vendor class (option 60). If specified class name is not found, the command tries to create it.

Command with **no** prefix removes selected class.

**Prefix no**

Yes

**Change settings**

No

**Multiple input**

Yes

**Group entry**

(config-dhcp-class)

**Synopsis**

```
(config)> ip dhcp class <class>
```

```
(config)> no ip dhcp class <class>
```

**Arguments**

| Argument | Value         | Description            |
|----------|---------------|------------------------|
| class    | <i>String</i> | The vendor-class name. |

**Example**

```
(config)> ip dhcp class STB-0ne
Dhcp::Server: Vendor class "STB-0ne" has been created.
```

**History**

| Version | Description                                           |
|---------|-------------------------------------------------------|
| 2.00    | The <b>ip dhcp class</b> command has been introduced. |

### 3.32.1 ip dhcp class option

**Description** Set an option 60 to match the vendor-class.  
Command with **no** prefix removes selected option.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** Yes

**Synopsis**

```
(config-dhcp-class)> option <number> hex <data>
(config-dhcp-class)> no option <number>
```

**Arguments**

| Argument | Value          | Description                                   |
|----------|----------------|-----------------------------------------------|
| number   | <i>Integer</i> | Option number. Now the only 60 value is used. |
| data     | <i>String</i>  | Value of an option.                           |

**Example**

```
(config-dhcp-class)> option 60 hex FF
Dhcp::Server: Option 60 is set to FF.
```

**History**

| Version | Description                                                  |
|---------|--------------------------------------------------------------|
| 2.00    | The <b>ip dhcp class option</b> command has been introduced. |

### 3.33 ip dhcp host

**Description** Configure static linking of IP address to MAC address of the host. If the host with the specified name is not found, the command tries to create it. If the specified IP address is not in range of any pool, the command will remain in the settings, but will not affect the *DHCP server* functioning.

The command allows one to change the MAC address, leaving the old value IP address and vice versa — to change the IP address, leaving the old MAC address value intact.

Command with **no** prefix removes the host.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** Yes

**Synopsis**

```
(config)> ip dhcp host <host> [ mac ] [ ip ]
```



```
(config)> no ip dhcp host <host>
```

**Arguments**

| Argument | Value              | Description                                                                                                                     |
|----------|--------------------|---------------------------------------------------------------------------------------------------------------------------------|
| host     | <i>String</i>      | Arbitrary host name, used to identify a MAC-IP pair in the settings.                                                            |
| mac      | <i>MAC address</i> | MAC address of the host for static linking of IP address. If not specified, the value is taken from the previous configuration. |
| ip       | <i>IP address</i>  | IP address of the host. If not specified, the value is taken from the previous configuration.                                   |

**Example**

```
(config)> ip dhcp host HOST 192.168.1.44
new host "HOST" has been created.
```

**History**

| Version | Description                                          |
|---------|------------------------------------------------------|
| 2.00    | The <b>ip dhcp host</b> command has been introduced. |

## 3.34 ip dhcp pool

**Description**

Access to a group of commands to configure DHCP-pool. If the pool is not found, the command tries to create it. For a pool one sets a list of DNS servers (**dns-server** command), default gateway (**default-router** command) and the lease time (**lease** command), as well as a range of dynamic IP addresses (**range** command).

Having configured the pool, it is necessary to enable the **DHCP** service using the **service dhcp** command.

You can enter up to 32 pools. Maximum pool name length is 32 characters.

Note: In the current version of the system no more than one pool per interface is supported. For **DHCP server** to function correctly it is required that the range of IP addresses set by **range** command belong to the network that is configured on one of the device's Ethernet-interfaces.

Command with **no** prefix removes the pool.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

Yes

**Group entry**

(config-dhcp-pool)

**Synopsis**

```
(config)> ip dhcp pool <name>
```

```
(config)> no ip dhcp pool <name>
```

**Arguments**

| Argument | Value         | Description     |
|----------|---------------|-----------------|
| name     | <i>String</i> | DHCP pool name. |

**Example**

```
(config)> ip dhcp pool test_pool
pool "test_pool" has been created.
```

**History**

| Version | Description                                          |
|---------|------------------------------------------------------|
| 2.00    | The <b>ip dhcp pool</b> command has been introduced. |

## 3.34.1 ip dhcp pool bind

**Description** Bind the pool to specified interface.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Interface type** Ethernet

**Synopsis**

```
(config-dhcp-pool)> bind <interface>
```

```
(config-dhcp-pool)> no bind <interface>
```

**Arguments**

| Argument  | Value            | Description                      |
|-----------|------------------|----------------------------------|
| interface | <i>Interface</i> | Full interface name or an alias. |

**Example**

```
(config-dhcp-pool)> bind GigabitEthernet1
pool "test_pool" bound to interface GigabitEthernet1.
```

**History**

| Version | Description                                               |
|---------|-----------------------------------------------------------|
| 2.00    | The <b>ip dhcp pool bind</b> command has been introduced. |

## 3.34.2 ip dhcp pool bootfile

**Description** Set boot file path on TFTP server for DHCP client (option 67).

Command with **no** prefix removes the setting.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Interface type** Ethernet

**Synopsis**

```
(config-dhcp-pool)> bootfile <bootfile>
(config-dhcp-pool)> no bootfile
```

| Arguments | Argument | Value           | Description         |
|-----------|----------|-----------------|---------------------|
|           | bootfile | <i>Filename</i> | The boot file path. |

**Example**

```
(config-dhcp-pool)> bootfile test.cnf
Dhcp::Pool: "_WEBADMIN": set bootfile option to "test.cnf".

(config-dhcp-pool)> no bootfile
Dhcp::Pool: "_WEBADMIN": cleared bootfile option.
```

| History | Version | Description                                                   |
|---------|---------|---------------------------------------------------------------|
|         | 2.11    | The <b>ip dhcp pool bootfile</b> command has been introduced. |

### 3.34.3 ip dhcp pool class

**Description** Access to a group of commands to configure [DHCP](#) vendor class for selected pool. If specified class name is not found, the command tries to create it.

To work correctly class name should be the same as for [ip dhcp class](#) command.

Command with **no** prefix removes selected class.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** Yes

**Group entry** (config-dhcp-pool-class)

**Synopsis**

```
(config-dhcp-pool)> class <class>
(config-dhcp-pool)> no class <class>
```

| Arguments | Argument | Value         | Description            |
|-----------|----------|---------------|------------------------|
|           | class    | <i>String</i> | The vendor-class name. |

**Example**

```
(config-dhcp-pool)> class STB-One
Dhcp::Server: Vendor class "STB-One" has been created.
```

**History**

| Version | Description                                                |
|---------|------------------------------------------------------------|
| 2.00    | The <b>ip dhcp pool class</b> command has been introduced. |

**3.34.3.1 ip dhcp pool class option****Description**

Set additional options for *DHCP* client in case of vendor-class matching.

Command with **no** prefix removes selected option.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

Yes

**Synopsis**

```
(config-dhcp-pool-class)> option <number> <type> <data>
(config-dhcp-pool-class)> no option <number>
```

**Arguments**

| Argument | Value         | Description                                                      |
|----------|---------------|------------------------------------------------------------------|
| number   | 6             | 6 option, DNS server.                                            |
|          | 42            | 42 option, NTP server.                                           |
|          | 43            | 43 option, vendor specific information.                          |
| type     | ip            | Type of data is IP address. This type is not used for 43 option. |
|          | hex           | Type of data is hexadecimal number.                              |
| data     | <i>String</i> | Value of an option.                                              |

**Example**

```
(config-dhcp-pool-class)> option 6 ip 192.168.1.1
Dhcp::Server: Option 6 is set to 192.168.1.1.
```

**History**

| Version | Description                                                       |
|---------|-------------------------------------------------------------------|
| 2.00    | The <b>ip dhcp pool class option</b> command has been introduced. |

**3.34.4 ip dhcp pool debug****Description**

Add debug messages to the system log. By default, the setting is disabled.

Command with **no** prefix disables debugging.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Synopsis**

```
(config-dhcp-pool)> debug
(config-dhcp-pool)> no debug
```

| History | Version | Description                                                |
|---------|---------|------------------------------------------------------------|
|         | 2.01    | The <b>ip dhcp pool debug</b> command has been introduced. |

### 3.34.5 ip dhcp pool default-router

**Description** Configure default gateway IP address. If not specified, the address of the Ethernet-interface determined automatically for a given range **range** will be used.

Command with **no** prefix cancels the setting.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Synopsis**

```
(config-dhcp-pool)> default-router <address>
(config-dhcp-pool)> no default-router
```

| Arguments | Argument | Value             | Description              |
|-----------|----------|-------------------|--------------------------|
|           | address  | <i>IP address</i> | Default gateway address. |

**Example**

```
(config-dhcp-pool)> default-router 192.168.1.88
pool "test_pool" router address has been saved.
```

| History | Version | Description                                                         |
|---------|---------|---------------------------------------------------------------------|
|         | 2.00    | The <b>ip dhcp pool default-router</b> command has been introduced. |

### 3.34.6 ip dhcp pool dns-server

**Description** Configure IP addresses of the DNS servers (DHCP option 6). If not specified, the address of the Ethernet-interface determined automatically for a given range **range** will be used.

Command with **no** prefix cancels the setting.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Synopsis**

```
(config-dhcp-pool)> dns-server ( <address1> [ <address2> ] | disable )
(config-dhcp-pool)> no dns-server
```

#### Arguments

| Argument | Value             | Description                      |
|----------|-------------------|----------------------------------|
| address1 | <i>IP address</i> | Address of primary DNS server.   |
| address2 | <i>IP address</i> | Address of secondary DNS server. |
| disable  | <i>Keyword</i>    | Disable DHCP option 6.           |

#### Example

```
(config-dhcp-pool)> dns-server 192.168.1.88
pool "test_pool" name server list has been saved.
```

#### History

| Version | Description                                                     |
|---------|-----------------------------------------------------------------|
| 2.00    | The <b>ip dhcp pool dns-server</b> command has been introduced. |
| 2.11    | Disable argument has been added.                                |

## 3.34.7 ip dhcp pool domain

**Description** Specify the domain name that client should use when resolving hostnames via DNS (option 15).

Command with **no** prefix cancels the setting.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Synopsis**

```
(config-dhcp-pool)> domain <domain>
(config-dhcp-pool)> no domain
```

#### Arguments

| Argument | Value         | Description        |
|----------|---------------|--------------------|
| domain   | <i>String</i> | Local domain name. |

**Example** (config-dhcp-pool)> **domain example.net**  
Dhcp::Pool: Domain option has been saved.

| History | Version | Description                                                 |
|---------|---------|-------------------------------------------------------------|
|         | 2.05    | The <b>ip dhcp pool domain</b> command has been introduced. |

## 3.34.8 ip dhcp pool enable

**Description** Start to use the pool in the system.  
Command with **no** prefix disables pool using.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Synopsis**

```
(config-dhcp-pool)> enable
(config-dhcp-pool)> no enable
```

**Example** (config-dhcp-pool)> **enable**  
Dhcp::Server: pool "111" is enabled.

| History | Version | Description                                                 |
|---------|---------|-------------------------------------------------------------|
|         | 2.03    | The <b>ip dhcp pool enable</b> command has been introduced. |

## 3.34.9 ip dhcp pool lease

**Description** Set the lease time of DHCP pool IP address. By default, 25200 value is used (7 hours).

Command with **no** prefix resets lease time to default.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Synopsis**

```
(config-dhcp-pool)> lease <lease>
(config-dhcp-pool)> no lease
```

**Arguments**

| Argument | Value          | Description                                                                            |
|----------|----------------|----------------------------------------------------------------------------------------|
| lease    | <i>Integer</i> | Lease time in seconds. Can take values in the range from 1 to 259200 seconds (3 days). |

**Example**

```
(config-dhcp-pool)> lease 259200
Dhcp::Pool: "_WEBADMIN": set lease time: 259200 seconds.
```

```
(config-dhcp-pool)> no lease
Dhcp::Pool: "_WEBADMIN": lease time reset to default (25200 seconds).
```

**History**

| Version | Description                                                |
|---------|------------------------------------------------------------|
| 2.00    | The <b>ip dhcp pool lease</b> command has been introduced. |

## 3.34.10 ip dhcp pool next-server

**Description**

Set TFTP server address for DHCP client (option 66).

Command with **no** prefix removes the setting.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

No

**Interface type**

Ethernet

**Synopsis**

```
(config-dhcp-pool)> next-server <address>
```

```
(config-dhcp-pool)> no next-server
```

**Arguments**

| Argument | Value             | Description          |
|----------|-------------------|----------------------|
| address  | <i>IP address</i> | TFTP server address. |

**Example**

```
(config-dhcp-pool)> next-server 10.1.1.11
Dhcp::Pool: "_WEBADMIN": set next server address: 10.1.1.11.
```

```
(config-dhcp-pool)> no next-server
Dhcp::Pool: "_WEBADMIN": cleared next server address.
```

**History**

| Version | Description                                                      |
|---------|------------------------------------------------------------------|
| 2.11    | The <b>ip dhcp pool next-server</b> command has been introduced. |



### 3.34.11 ip dhcp pool option

**Description** Set additional options for DHCP server.  
Command with **no** prefix removes the setting.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** Yes

**Interface type** Ethernet

**Synopsis**

```
(config-dhcp-pool)> option <number> [ type ] <data>
(config-dhcp-pool)> no option <number>
```

#### Arguments

| Argument | Value         | Description                                                                                                                                                                        |
|----------|---------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| number   | 4             | 4 option, Time server. Type is IP address.                                                                                                                                         |
|          | 6             | 6 option, DNS server. Type is IP address.                                                                                                                                          |
|          | 42            | 42 option, NTP server. Type is IP address.                                                                                                                                         |
|          | 44            | 44 option, NetBIOS server. Type is IP address.                                                                                                                                     |
|          | 26            | 26 option, MTU. Can take values in the range from 0 to 65535 inclusively.                                                                                                          |
|          | 121           | 121 option, Classless Static Routes. Type is IP address of the destination network and mask of the destination network the form of prefix bit length (for example, /24).           |
|          | 249           | 249 option, Microsoft Classless Static Routes. Type is IP address of the destination network and mask of the destination network the form of prefix bit length (for example, /24). |
| type     | hex           | Hexadecimal number.                                                                                                                                                                |
|          | ascii         | ASCII number.                                                                                                                                                                      |
|          | ip            | IP address. It is not applicable to 26 option. It is not specified as a keyword in the command.                                                                                    |
| data     | <i>String</i> | Value of an option.                                                                                                                                                                |

#### Example

```
(config-dhcp-pool)> option 4 192.168.2.1
Dhcp::Pool: "_WEBADMIN_BRIDGE2": set option 4.
```

```
(config-dhcp-pool)> option 60 ascii "MSFT 5.0"
Dhcp::Pool: "_WEBADMIN_BRIDGE2": set option 60.
```

```
(config-dhcp-pool)> option 150 ip 41.57.50.46,42.54.50.46
Dhcp::Pool: "_WEBADMIN_BRIDGE2": set option 150.
```

```
(config-dhcp-pool)> no option 4
Dhcp::Pool: "_WEBADMIN_BRIDGE2": cleared option 4.
```

**History**

| Version | Description                                                 |
|---------|-------------------------------------------------------------|
| 2.09    | The <b>ip dhcp pool option</b> command has been introduced. |

## 3.34.12 ip dhcp pool range

**Description**

Configure the range of dynamic addresses issued to DHCP clients of a subnet. The range is set by start and end IP addresses or the start address and size. The network interface to which the settings are applied is chosen automatically. Address of the chosen interface is used as the default gateway and DNS server, if other addresses are not specified using commands **ip dhcp pool default-router** and **ip dhcp pool dns-server**.

Command with **no** prefix removes the range.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

No

**Synopsis**

```
(config-dhcp-pool)> range <begin> (<end> | <size>)
```

```
(config-dhcp-pool)> no range
```

**Arguments**

| Argument | Value             | Description           |
|----------|-------------------|-----------------------|
| begin    | <i>IP address</i> | Pool's start address. |
| end      | <i>IP address</i> | Pool's end address.   |
| size     | <i>Integer</i>    | Pool size.            |

**Example**

```
(config-dhcp-pool)> range 192.168.15.43 3
pool "_WEBADMIN" range has been saved.
```

**History**

| Version | Description                                                |
|---------|------------------------------------------------------------|
| 2.00    | The <b>ip dhcp pool range</b> command has been introduced. |

## 3.34.13 ip dhcp pool update-dns

**Description**

Add static records into DNS-proxy when DHCP-address is assigned. The name of record is the hostname of the DHCP-request. By default, the feature is disabled.

Command with **no** prefix disables the feature.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Synopsis**

```
(config-dhcp-pool)> update-dns
(config-dhcp-pool)> no update-dns
```

**Example**

```
(config-dhcp-pool)> update-dns
Dhcp::Pool: DNS update has been enabled.
```

| History | Version | Description                                                     |
|---------|---------|-----------------------------------------------------------------|
|         | 2.06    | The <b>ip dhcp pool update-dns</b> command has been introduced. |

### 3.34.14 ip dhcp pool wpad

**Description** Configure DHCP option 252 — [WPAD](#) protocol. By default, the option is disabled.

Command with **no** prefix disables the setting.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Synopsis**

```
(config-dhcp-pool)> wpad <wpad>
(config-dhcp-pool)> no wpad
```

| Arguments | Argument | Value         | Description   |
|-----------|----------|---------------|---------------|
|           | wpad     | <i>String</i> | URL of proxy. |

**Example**

```
(config-dhcp-pool)> wpad http://wpad/wpad.dat
Dhcp::Pool: WPAD option has been saved.
```

| History | Version | Description                                               |
|---------|---------|-----------------------------------------------------------|
|         | 2.05    | The <b>ip dhcp pool wpad</b> command has been introduced. |

## 3.35 ip dhcp relay enable

**Description** Enable DHCP relay on an interface. DHCP relay takes priority over the router's DHCP server.

Command with **no** prefix removes the setting.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Interface type** Ethernet

**Synopsis** (config-if)> **ip dhcp relay enable**

(config-if)> **no ip dhcp relay enable**

**Example** (config-if)> **ip dhcp relay enable**  
Dhcp::Relay: Service enabled on ISP.

(config-if)> **no ip dhcp relay enable**  
Dhcp::Relay: Service disabled on ISP.

**History**

| Version | Description                                                  |
|---------|--------------------------------------------------------------|
| 4.03    | The <b>ip dhcp relay enable</b> command has been introduced. |

## 3.36 ip dhcp relay lan

**Description** Specify which network interface the DHCP relay will use to handle client's requests. Several "lan" interfaces can be specified, to which end the command should be entered several times, enumerating all desired interfaces one by one.

Command with **no** prefix disables the DHCP relay on the specified interface. If you use no argument, the DHCP relay will be removed from all interfaces.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** Yes

**Synopsis** (config)> **ip dhcp relay lan** <interface>

(config)> **no ip dhcp relay lan** [ interface ]

**Arguments**

| Argument  | Value            | Description                                                                                              |
|-----------|------------------|----------------------------------------------------------------------------------------------------------|
| interface | <i>Interface</i> | Full name or an alias of Ethernet interface, through which DHCP relay will accept requests from clients. |

**Example**

```
(config)> ip dhcp relay lan Home
added LAN interface Home.
```

**History**

| Version | Description                                               |
|---------|-----------------------------------------------------------|
| 2.00    | The <b>ip dhcp relay lan</b> command has been introduced. |

## 3.37 ip dhcp relay server

**Description**

Specify the IP address of the *DHCP server*, to which the relay will forward client requests from the LAN.

Command with **no** prefix removes the setting.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

No

**Synopsis**

```
(config)> ip dhcp relay server <address>
```

```
(config)> no ip dhcp relay server [ address ]
```

**Arguments**

| Argument | Value             | Description                            |
|----------|-------------------|----------------------------------------|
| address  | <i>IP address</i> | IP address of the <i>DHCP server</i> . |

**Example**

```
(config)> ip dhcp relay server 192.168.1.11
using DHCP server 192.168.1.11.
```

**History**

| Version | Description                                                  |
|---------|--------------------------------------------------------------|
| 2.00    | The <b>ip dhcp relay server</b> command has been introduced. |

## 3.38 ip dhcp relay upstream interface

**Description**

Bind DHCP upstream to a specific interface.

Command with **no** prefix removes the setting.

**Prefix no**

Yes

**Change settings** Yes**Multiple input** No**Interface type** Ethernet

**Synopsis**

```
(config-if)> ip dhcp relay upstream interface <interface>
```

```
(config-if)> no ip dhcp relay upstream interface
```

**Arguments**

| Argument  | Value            | Description                                                                                                                |
|-----------|------------------|----------------------------------------------------------------------------------------------------------------------------|
| interface | <i>Interface</i> | Full interface name or an alias. You can see the list of available interfaces with help of <b>interface</b> [Tab] command. |

**Example**

```
(config-if)> ip dhcp relay upstream interface Home
Dhcp::Relay: Using WAN interface Home.
```

```
(config-if)> no ip dhcp relay upstream interface
Dhcp::Relay: WAN interface setting cleared.
```

**History**

| Version | Description                                                              |
|---------|--------------------------------------------------------------------------|
| 4.03    | The <b>ip dhcp relay upstream interface</b> command has been introduced. |

## 3.39 ip dhcp relay upstream server

**Description** Specify an upstream IP address of the [DHCP server](#), to which the relay will forward client requests.

Command with **no** prefix removes the setting.

**Prefix no** Yes**Change settings** Yes**Multiple input** No**Interface type** Ethernet

**Synopsis**

```
(config-if)> ip dhcp relay upstream server <server>
```

```
(config-if)> no ip dhcp relay upstream server
```

**Arguments**

| Argument | Value             | Description                                     |
|----------|-------------------|-------------------------------------------------|
| server   | <i>IP address</i> | IP address of the <a href="#">DHCP server</a> . |

**Example**

```
(config-if)> ip dhcp relay upstream server 192.168.17.1
Dhcp::Relay: Using DHCP server 192.168.17.1.
```

```
(config-if)> no ip dhcp relay upstream server
Dhcp::Relay: Server address setting cleared.
```

**History**

| Version | Description                                                           |
|---------|-----------------------------------------------------------------------|
| 4.03    | The <b>ip dhcp relay upstream server</b> command has been introduced. |

## 3.40 ip dhcp relay wan

**Description**

Specify the network interface through which DHCP relay will interact with higher level [DHCP server](#). There can be only one interface of such type in the system. If exact address of the server is not specified (see [ip dhcp relay server](#)), the requests will be broadcasted. It is recommended to specify server address.

Command with **no** prefix removes the setting.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

No

**Synopsis**

```
(config)> ip dhcp relay wan <interface>
```

```
(config)> no ip dhcp relay wan [ interface ]
```

**Arguments**

| Argument  | Value     | Description                                                                                        |
|-----------|-----------|----------------------------------------------------------------------------------------------------|
| interface | Interface | Full name or an alias of Ethernet interface, on which requests from the DHCP clients will be sent. |

**Example**

```
(config)> ip dhcp relay wan GigabitEthernet1
using WAN interface GigabitEthernet1.
```

**History**

| Version | Description                                               |
|---------|-----------------------------------------------------------|
| 2.00    | The <b>ip dhcp relay wan</b> command has been introduced. |

## 3.41 ip esp alg enable

**Description**

Enable [IPsec Passthrough](#) mode for [IPsec ESP](#) tunnel. By default, the setting is disabled.

Command with **no** prefix disables the feature.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Synopsis**

```
(config)> ip esp alg enable
(config)> no ip esp alg enable
```

**Example**

```
(config)> ip esp alg enable
Esp::Alg: Enabled.
```

```
(config)> no ip esp alg enable
Esp::Alg: Disabled.
```

**History**

| Version | Description                                               |
|---------|-----------------------------------------------------------|
| 3.05    | The <b>ip esp alg enable</b> command has been introduced. |

## 3.42 ip flow-cache timeout active

**Description** Set timeout of active sessions in cache. By default, the value 10 is used.

Command with **no** prefix resets the setting to default.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Synopsis**

```
(config)> ip flow-cache timeout active <timeout>
(config)> no ip flow-cache timeout active
```

**Arguments**

| Argument | Value          | Description                                                               |
|----------|----------------|---------------------------------------------------------------------------|
| timeout  | <i>Integer</i> | The timeout value, in minutes. Can take values in the range from 1 to 30. |

**Example**

```
(config)> ip flow-cache timeout active 1
Netflow::Manager: Active timeout set to "1" min.
```

```
(config)> no ip flow-cache timeout active
Netflow::Manager: Active timeout reset to "10" min.
```



| History | Version | Description                                                          |
|---------|---------|----------------------------------------------------------------------|
|         | 2.11    | The <b>ip flow-cache timeout active</b> command has been introduced. |

## 3.43 ip flow-cache timeout inactive

**Description** Set timeout of inactive sessions in cache. By default, the value 20 is used.

Command with **no** prefix resets the setting to default.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Synopsis**

```
(config)> ip flow-cache timeout inactive <timeout>
(config)> no ip flow-cache timeout inactive
```

| Arguments | Argument | Value          | Description                                                                |
|-----------|----------|----------------|----------------------------------------------------------------------------|
|           | timeout  | <i>Integer</i> | The timeout value, in seconds. Can take values in the range from 1 to 600. |

**Example**

```
(config)> ip flow-cache timeout inactive 1
Netflow::Manager: Inactive timeout set to "1" s.

(config)> no ip flow-cache timeout inactive
Netflow::Manager: Inactive timeout reset to "20" s.
```

| History | Version | Description                                                            |
|---------|---------|------------------------------------------------------------------------|
|         | 2.11    | The <b>ip flow-cache timeout inactive</b> command has been introduced. |

## 3.44 ip flow-export destination

**Description** Set parameters of *NetFlow* collector.

Command with **no** prefix removes collector's parameters.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Synopsis**

```
(config)> ip flow-export destination <address> <port>
```

```
(config)> no ip flow-export destination
```

**Arguments**

| Argument | Value             | Description                                                                                        |
|----------|-------------------|----------------------------------------------------------------------------------------------------|
| address  | <i>IP address</i> | IP address of the data collector.                                                                  |
| port     | <i>Integer</i>    | Collector's UDP port number. Can take values 2055, 2056, 4432, 4739, 9025, 9026, 9995, 9996, 6343. |

**Example**

```
(config)> ip flow-export destination 192.168.101.31 4739  
Netflow::Manager: Export destination is set to ►  
192.168.101.31:4739.
```

```
(config)> no ip flow-export destination  
Netflow::Manager: Export destination is unset.
```

**History**

| Version | Description                                                        |
|---------|--------------------------------------------------------------------|
| 2.11    | The <b>ip flow-export destination</b> command has been introduced. |

## 3.45 ip flow-export version

**Description**

Set version of *NetFlow* collector. By default, 5 value is used.

Command with **no** prefix resets version to default.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

No

**Synopsis**

```
(config)> ip flow-export version <version>
```

```
(config)> no ip flow-export version
```

**Arguments**

| Argument | Value         | Description          |
|----------|---------------|----------------------|
| version  | <i>String</i> | Version of protocol. |

**Example**

```
(config)> ip flow-export version 9  
Netflow::Manager: Set export protocol version to 9.
```

```
(config)> no ip flow-export version  
Netflow::Manager: Reset export version to 5.
```

**History**

| Version | Description                                                    |
|---------|----------------------------------------------------------------|
| 3.05    | The <b>ip flow-export version</b> command has been introduced. |

## 3.46 ip host

**Description** Add a domain name and address as a DNS-record.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** Yes

**Synopsis**

```
(config)> ip host <domain> <address>
```

```
(config)> no ip host [ <domain> <address> ]
```

**Arguments**

| Argument | Value             | Description              |
|----------|-------------------|--------------------------|
| domain   | <i>String</i>     | A domain name of a host. |
| address  | <i>IP address</i> | An IP address of a host. |

**Example**

```
(config)> ip host example.local 192.168.1.22  
Dns::Manager: Added static record for "example.local", address ►  
192.168.1.22.
```

```
(config)> no ip host example.local 192.168.1.22  
Dns::Manager: Record "example.local", address 192.168.1.22 ►  
deleted.
```

**History**

| Version | Description                                     |
|---------|-------------------------------------------------|
| 2.00    | The <b>ip host</b> command has been introduced. |

## 3.47 ip hotspot

**Description** Access to a group of commands for Hotspot configuration.

**Prefix no** No

**Change settings** No

**Multiple input** No

**Interface type** IP

**Group entry** (config-hotspot)

**Synopsis**

```
(config)> ip hotspot
```

**Example**

```
(config)> ip hotspot
(config-hotspot)>
```

**History**

| Version | Description                                        |
|---------|----------------------------------------------------|
| 2.06    | The <b>ip hotspot</b> command has been introduced. |

## 3.47.1 ip hotspot auto-register disable

**Description**

Forcibly disable automatic host registration in the Home segment. By default, the auto-registration is enabled.

Command with **no** prefix enables the auto-registration.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

No

**Interface type**

IP

**Synopsis**

```
(config-hotspot)> auto-register disable
```

```
(config-hotspot)> no auto-register disable
```

**Example**

```
(config-hotspot)> auto-register disable
Hotspot::AutoRegister: Disabled host auto-registration.
```

```
(config-hotspot)> no auto-register disable
Hotspot::AutoRegister: Enabled host auto-registration.
```

**History**

| Version | Description                                                              |
|---------|--------------------------------------------------------------------------|
| 4.02    | The <b>ip hotspot auto-register disable</b> command has been introduced. |

## 3.47.2 ip hotspot auto-scan interface

**Description**

Enable subnetwork passive scanning on interface. By default is enabled.

Command with **no** prefix disables the setting.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

Yes

| Interface type | IP                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                  |             |             |                                                                        |                  |                                  |
|----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|-------------|-------------|------------------------------------------------------------------------|------------------|----------------------------------|
| Synopsis       | <pre>(config-hotspot)&gt; <b>auto-scan interface</b> &lt;interface&gt;</pre> <pre>(config-hotspot)&gt; <b>no auto-scan interface</b> &lt;interface&gt;</pre>                                                                                                                                                                                                                                                                            |                                  |             |             |                                                                        |                  |                                  |
| Arguments      | <table><tr><th>Argument</th><th>Value</th><th>Description</th></tr><tr><td>interface</td><td><i>Interface</i></td><td>Full interface name or an alias.</td></tr></table>                                                                                                                                                                                                                                                                | Argument                         | Value       | Description | interface                                                              | <i>Interface</i> | Full interface name or an alias. |
| Argument       | Value                                                                                                                                                                                                                                                                                                                                                                                                                                   | Description                      |             |             |                                                                        |                  |                                  |
| interface      | <i>Interface</i>                                                                                                                                                                                                                                                                                                                                                                                                                        | Full interface name or an alias. |             |             |                                                                        |                  |                                  |
| Example        | <pre>(config-hotspot)&gt; <b>auto-scan interface WifiMaster0/AccessPoint1</b></pre> <pre>Hotspot::Discovery::Manager: Subnetwork scanning on interface ►</pre> <pre>"WifiMaster0/AccessPoint1" is unchanged.</pre><br><pre>(config-hotspot)&gt; <b>auto-scan interface WifiMaster0/AccessPoint1</b></pre> <pre>Hotspot::Discovery::Manager: Subnetwork scanning on interface ►</pre> <pre>"WifiMaster0/AccessPoint1" is disabled.</pre> |                                  |             |             |                                                                        |                  |                                  |
| History        | <table><tr><th>Version</th><th>Description</th></tr><tr><td>2.08</td><td>The <b>ip hotspot auto-scan interface</b> command has been introduced.</td></tr></table>                                                                                                                                                                                                                                                                       | Version                          | Description | 2.08        | The <b>ip hotspot auto-scan interface</b> command has been introduced. |                  |                                  |
| Version        | Description                                                                                                                                                                                                                                                                                                                                                                                                                             |                                  |             |             |                                                                        |                  |                                  |
| 2.08           | The <b>ip hotspot auto-scan interface</b> command has been introduced.                                                                                                                                                                                                                                                                                                                                                                  |                                  |             |             |                                                                        |                  |                                  |

### 3.47.3 ip hotspot auto-scan interval

| Description     | Set interval for probes of online hosts. By default, the value 30 is used.<br><br>Command with <b>no</b> prefix resets setting to default.                                |                                      |       |             |          |                |                                      |
|-----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|-------|-------------|----------|----------------|--------------------------------------|
| Prefix no       | Yes                                                                                                                                                                       |                                      |       |             |          |                |                                      |
| Change settings | Yes                                                                                                                                                                       |                                      |       |             |          |                |                                      |
| Multiple input  | No                                                                                                                                                                        |                                      |       |             |          |                |                                      |
| Interface type  | IP                                                                                                                                                                        |                                      |       |             |          |                |                                      |
| Synopsis        | <pre>(config-hotspot)&gt;  auto-scan interval &lt;interval&gt;</pre> <pre>(config-hotspot)&gt; no auto-scan interval</pre>                                                |                                      |       |             |          |                |                                      |
| Arguments       | <table><tr><th>Argument</th><th>Value</th><th>Description</th></tr><tr><td>interval</td><td><i>Integer</i></td><td>Auto-scan probe interval in seconds.</td></tr></table> | Argument                             | Value | Description | interval | <i>Integer</i> | Auto-scan probe interval in seconds. |
| Argument        | Value                                                                                                                                                                     | Description                          |       |             |          |                |                                      |
| interval        | <i>Integer</i>                                                                                                                                                            | Auto-scan probe interval in seconds. |       |             |          |                |                                      |
| Example         | <pre>(config-hotspot)&gt; auto-scan interval 10</pre> <pre>Hotspot::Discovery::Manager: Auto-scan probe interval is set to ► 10 s.</pre>                                  |                                      |       |             |          |                |                                      |

```
(config-hotspot)> no auto-scan interval
Hotspot::Discovery::Manager: Auto-scan probe interval reset to ►
default.
```

**History**

| Version | Description                                                           |
|---------|-----------------------------------------------------------------------|
| 2.08    | The <b>ip hotspot auto-scan interval</b> command has been introduced. |

## 3.47.4 ip hotspot auto-scan passive

**Description** Set passive autoscan rate in hosts per seconds. By default, the value 3 is used.

Command with **no** prefix resets setting to default.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Interface type** IP

**Synopsis**

```
(config-hotspot)> auto-scan passive <rate> hps
```

```
(config-hotspot)> no auto-scan passive
```

**Arguments**

| Argument | Value          | Description            |
|----------|----------------|------------------------|
| rate     | <i>Integer</i> | Passive autoscan rate. |

**Example**

```
(config-hotspot)> auto-scan passive 5 hps
Hotspot::Discovery::Manager: Auto-scan rate is set to 5 hps.
```

```
(config-hotspot)> no auto-scan passive
Hotspot::Discovery::Manager: Auto-scan rate reset to default.
```

**History**

| Version | Description                                                          |
|---------|----------------------------------------------------------------------|
| 2.08    | The <b>ip hotspot auto-scan passive</b> command has been introduced. |

## 3.47.5 ip hotspot auto-scan timeout

**Description** Set offline timeout for hosts. After the specified time, the missing host is removed from the online host list. By default, the value 35 is used.

Command with **no** prefix resets setting to default.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Interface type** IP

**Synopsis**

```
(config-hotspot)> auto-scan timeout <timeout>
(config-hotspot)> no auto-scan timeout
```

**Arguments**

| Argument | Value          | Description                 |
|----------|----------------|-----------------------------|
| timeout  | <i>Integer</i> | Offline timeout in seconds. |

**Example**

```
(config-hotspot)> auto-scan timeout 31
Hotspot::Discovery::Manager: Auto-scan host offline timeout is ►
set to 31 s.
```

```
(config-hotspot)> no auto-scan timeout
Hotspot::Discovery::Manager: Auto-scan host offline timeout reset ►
to default.
```

**History**

| Version | Description                                                          |
|---------|----------------------------------------------------------------------|
| 2.08    | The <b>ip hotspot auto-scan timeout</b> command has been introduced. |

## 3.47.6 ip hotspot default-policy

**Description** Define the Hotspot policy for all interfaces or assign IP Policy. Policy applies to all hosts that have no explicitly configured access rule, [ip hotspot policy](#).

Default policy: permit.

Command with **no** prefix resets policy to default.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** Yes

**Interface type** IP

**Synopsis**

```
(config-hotspot)> default-policy (<access> | <policy>)
(config-hotspot)> no default-policy
```

**Arguments**

| Argument | Value  | Description                    |
|----------|--------|--------------------------------|
| access   | permit | Permit access to the internet. |

| Argument | Value         | Description                  |
|----------|---------------|------------------------------|
|          | deny          | Deny access to the internet. |
| policy   | <i>Policy</i> | Name of IP Policy profile.   |

**Example**

```
(config-hotspot)> default-policy permit
FHotspot::Manager: Default policy "permit" applied.
```

```
(config-hotspot)> default-policy deny
Hotspot::Manager: Default policy "deny" applied.
```

```
(config-hotspot)> default-policy Policy0
Hotspot::Manager: Default policy "Policy0" applied.
```

```
(config-hotspot)> no default-policy
Hotspot::Manager: Default policy cleared.
```

**History**

| Version | Description                                                       |
|---------|-------------------------------------------------------------------|
| 2.09    | The <b>ip hotspot default-policy</b> command has been introduced. |
| 2.12    | Argument policy was added.                                        |

## 3.47.7 ip hotspot host

**Description**

Setup bypass or block rules for specific Hotspot clients. Host rules override interface based policy (see [ip hotspot policy](#) command).

Command with **no** prefix removes the setting.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

Yes

**Interface type**

IP

**Synopsis**

```
(config-hotspot)> host <mac> (<access> | schedule <schedule> | policy
<policy>)
```

```
(config-hotspot)> no host <mac> (<access> | schedule | policy)
```

**Arguments**

| Argument | Value              | Description                                                                          |
|----------|--------------------|--------------------------------------------------------------------------------------|
| mac      | <i>MAC address</i> | Host MAC address. Host must be registered via <a href="#">known host</a> in advance. |
| access   | permit             | Permit access to the internet.                                                       |
|          | deny               | Deny access to the internet.                                                         |



| Argument | Value           | Description                                                                       |
|----------|-----------------|-----------------------------------------------------------------------------------|
| schedule | <i>Schedule</i> | The name of the schedule that was created with <b>schedule</b> group of commands. |
| policy   | <i>Policy</i>   | Name of IP Policy profile.                                                        |

**Example**

```
(config)> known host MYTEST 54:e4:3a:8a:f3:a7
Hotspot::Manager: Policy "permit" applied to interface "Home".
```

```
(config-hotspot)> host 54:e4:3a:8a:f3:a7 permit
Hotspot::Manager: Rule "permit" applied to host ►
"54:e4:3a:8a:f3:a7".
```

```
(config-hotspot)> host 54:e4:3a:8a:f3:a7 deny
Hotspot::Manager: Rule "deny" applied to host "54:e4:3a:8a:f3:a7".
```

```
(config-hotspot)> host 54:e4:3a:8a:f3:a7 schedule MYSCHEDULE
Hotspot::Manager: Schedule "MYSCHEDULE" applied to host ►
"54:e4:3a:8a:f3:a7".
```

```
(config-hotspot)> no host 54:e4:3a:8a:f3:a7 schedule
Hotspot::Manager: Host "54:e4:3a:8a:f3:a7" schedule disabled.
```

```
(config-hotspot)> host 54:e4:3a:8a:f3:a7 policy Policy0
Hotspot::Manager: Policy "Policy0" applied to host ►
"54:e4:3a:8a:f3:a7".
```

```
(config-hotspot)> no host 54:e4:3a:8a:f3:a7 policy
Hotspot::Manager: Policy removed from host "54:e4:3a:8a:f3:a7".
```

**History**

| Version | Description                                             |
|---------|---------------------------------------------------------|
| 2.06    | The <b>ip hotspot host</b> command has been introduced. |
| 2.12    | Arguments permit, deny, schedule, policy were added.    |

## 3.47.8 ip hotspot host conform

**Description**

Assign a segment-default policy for the registered hosts. Registration of a host is performed in advance by the **known host** command. By default, the setting is enabled.

Command with **no** prefix removes the setting.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

No

**Interface type**

IP

**Synopsis**

```
(config-hotspot)> host <mac> conform
```

```
(config-hotspot)> no host <mac> conform
```

**Arguments**

| Argument | Value       | Description          |
|----------|-------------|----------------------|
| mac      | MAC address | MAC address of host. |

**Example**

```
(config-hotspot)> host 04:14:24:54:bc:52 conform
Hotspot::Manager: Conform applied to host "04:14:24:54:bc:52".
```

```
(config-hotspot)> no host 04:14:24:54:bc:52 conform
Hotspot::Manager: Conform removed from host "04:14:24:54:bc:52".
```

**History**

| Version | Description                                                     |
|---------|-----------------------------------------------------------------|
| 4.02    | The <b>ip hotspot host conform</b> command has been introduced. |

## 3.47.9 ip hotspot host priority

**Description**

Assign a specific priority to all traffic bound to a registered host. Registration of a host is performed in advance by the [known host](#) command.

Command with **no** prefix removes the priority.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

No

**Interface type**

IP

**Synopsis**

```
(config-hotspot)> host <mac> priority <priority>
```

```
(config-hotspot)> no host <mac> priority
```

**Arguments**

| Argument | Value       | Description       |
|----------|-------------|-------------------|
| mac      | MAC address | Host MAC address. |
| priority | 1           | Top.              |
|          | 2           | Critical.         |
|          | 3           | High.             |
|          | 4           | Medium-high.      |
|          | 5           | Medium.           |
|          | 6           | Normal (Default). |
|          | 7           | Low.              |

**Example**

```
(config-hotspot)> host 04:d2:c1:14:bc:59 priority 7
Hotspot::Manager: Applied priority "7" to host ►
"04:d2:c1:14:bc:59".
```

```
(config-hotspot)> no host 04:d2:c1:14:bc:59 priority
Hotspot::Manager: Removed priority from host "04:d2:c1:14:bc:59".
```

**History**

| Version | Description                                                      |
|---------|------------------------------------------------------------------|
| 3.08    | The <b>ip hotspot host priority</b> command has been introduced. |

## 3.47.10 ip hotspot policy

**Description**

Define the Hotspot policy for a specific interface. Policy applies to all hosts that have no explicitly configured access rule, [ip hotspot host](#).

Default policy: permit.

Command with **no** prefix resets policy to default.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

Yes

**Interface type**

IP

**Synopsis**

```
(config-hotspot)> policy <interface> (<access> | <policy>)
```

```
(config-hotspot)> no policy <interface>
```

**Arguments**

| Argument  | Value            | Description                               |
|-----------|------------------|-------------------------------------------|
| interface | <i>Interface</i> | Ethernet interface full name or an alias. |
| access    | permit           | Permit access to the internet.            |
|           | deny             | Deny access to the internet.              |
| policy    | <i>Policy</i>    | Name of IP Policy profile.                |

**Example**

```
(config-hotspot)> policy Home permit
Hotspot::Manager: Policy "permit" applied to interface "Home".
```

```
(config-hotspot)> policy Home deny
Hotspot::Manager: Policy "deny" applied to interface "Home".
```

```
(config-hotspot)> policy Home Policy0
Hotspot::Manager: Policy "Policy0" applied to interface "Home".
```

```
(config-hotspot)> no policy Home
Hotspot::Manager: Interface "Home" policy cleared.
```

**History**

| Version | Description                                               |
|---------|-----------------------------------------------------------|
| 2.06    | The <b>ip hotspot policy</b> command has been introduced. |
| 2.12    | Argument <i>policy</i> was added.                         |

## 3.47.11 ip hotspot priority

**Description**

Assign a specific priority to all traffic bound to the interface.

Command with **no** prefix removes the priority.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

Yes

**Interface type**

IP

**Synopsis**

```
(config-hotspot)> priority <interface> <priority>
```

```
(config-hotspot)> no priority <interface>
```

**Arguments**

| Argument  | Value            | Description                      |
|-----------|------------------|----------------------------------|
| interface | <i>Interface</i> | Full interface name or an alias. |
| priority  | 1                | Top.                             |
|           | 2                | Critical.                        |
|           | 3                | High.                            |
|           | 4                | Medium-high.                     |
|           | 5                | Medium.                          |
|           | 6                | Normal (Default).                |
|           | 7                | Low.                             |

**Example**

```
(config-hotspot)> priority Home 7  
Hotspot::Manager: Applied priority "7" to interface "Home".
```

```
(config-hotspot)> no priority Home  
Hotspot::Manager: Removed priority from interface "Home".
```

**History**

| Version | Description                                                 |
|---------|-------------------------------------------------------------|
| 3.08    | The <b>ip hotspot priority</b> command has been introduced. |

### 3.47.12 ip hotspot wake

**Description** Send Wake-on-LAN packet to private and protected interfaces of the host.

**Prefix no** No

**Change settings** No

**Multiple input** No

**Interface type** IP

**Synopsis** (config-hotspot)> **wake** *mac*

**Arguments**

| Argument | Value              | Description       |
|----------|--------------------|-------------------|
| mac      | <i>MAC address</i> | Host MAC address. |

**Example**

```
(config-hotspot)> wake a8:1e:84:11:f1:22
Hotspot::Manager: WoL sent to host: a8:1e:84:11:f1:22.
```

**History**

| Version | Description                                             |
|---------|---------------------------------------------------------|
| 2.08    | The <b>ip hotspot wake</b> command has been introduced. |

### 3.48 ip http lockout-policy

**Description** Set HTTP brute-force detection parameters for public interfaces. By default, feature is enabled. If you use 0 as an argument, all brute-force detection parameters will be reset to default.

Command with **no** prefix disables brute-force detection.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Interface type** IP

**Synopsis** (config)> **ip http lockout-policy** *threshold* [ *duration* ] [ *observation-window* ]

(config)> **no ip http lockout-policy**

**Arguments**

| Argument           | Value          | Description                                                                                                                             |
|--------------------|----------------|-----------------------------------------------------------------------------------------------------------------------------------------|
| threshold          | <i>Integer</i> | The number of failed attempts to log in. By default, 5 value is used. Can take values in the range from 4 to 20.                        |
| duration           | <i>Integer</i> | An authorization ban duration for the specified IP in minutes. By default, 15 value is used. Can take values in the range from 1 to 60. |
| observation-window | <i>Integer</i> | Duration of suspicious activity observation in minutes. By default, 3 value is used. Can take values in the range from 1 to 10.         |

**Example**

```
(config)> ip http logout-policy 10 30 2
Http::Manager: Brute force detection is enabled.
```

```
(config)> no ip http logout-policy
Http::Manager: Brute force detection is disabled.
```

```
(config)> ip http logout-policy 0
Http::Manager: Brute force detection reset to default.
```

**History**

| Version | Description                                                   |
|---------|---------------------------------------------------------------|
| 2.08    | The <b>ip http logout-policy</b> command has been introduced. |

## 3.49 ip http log access

**Description** Enable debug mode for web server (nginx). By default, feature is disabled.  
Command with **no** prefix disables the debug mode.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Interface type** IP

**Synopsis**

```
(config)> ip http log access
(config)> no ip http log access
```

**Example**

```
(config)> ip http log access
Http::Manager: Enabled access logging.
```

```
(config)> no ip http log access
Http::Manager: Disabled access logging.
```

**History**

| Version | Description                                                |
|---------|------------------------------------------------------------|
| 3.00    | The <b>ip http log access</b> command has been introduced. |

## 3.50 ip http log auth

**Description** Enable logging of failed authorization attempts to the system. By default, feature is disabled.

Command with **no** prefix disables logging.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Interface type** IP

**Synopsis**

```
(config)> ip http log auth
(config)> no ip http log auth
```

**Example**

```
(config)> ip http log auth
Http::Manager: Auth logging enabled.
```

```
(config)> no ip http log auth
Http::Manager: Auth logging disabled.
```

**History**

| Version | Description                                              |
|---------|----------------------------------------------------------|
| 2.08    | The <b>ip http log auth</b> command has been introduced. |

## 3.51 ip http log webdav

**Description** Enable logging of failed connection attempts to the [WebDAV](#) server. By default, feature is disabled.

Command with **no** prefix disables logging.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Interface type** IP

**Synopsis**

```
(config)> ip http log webdav
```

```
(config)> no ip http log webdav
```

**Example**

```
(config)> ip http log webdav
WebDav::Server: Enabled request tracing.
```

```
(config)> no ip http log webdav
WebDav::Server: Disabled request tracing.
```

**History**

| Version | Description                                                |
|---------|------------------------------------------------------------|
| 3.04    | The <b>ip http log webdav</b> command has been introduced. |

## 3.52 ip http port

**Description**

Assign HTTP port for Web interface of Sprinter. By default, 80 value is used.

Command with **no** prefix resets HTTP port to default.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

No

**Interface type**

IP

**Synopsis**

```
(config)> ip http port <port>
```

```
(config)> no ip http port
```

**Arguments**

| Argument | Value          | Description    |
|----------|----------------|----------------|
| port     | <i>Integer</i> | New HTTP port. |

**Example**

```
(config)> ip http port 8080
Http::Manager: Port changed to 8080.
```

```
(config)> no ip http port
Http::Manager: Port reset to 80.
```

**History**

| Version | Description                                          |
|---------|------------------------------------------------------|
| 2.08    | The <b>ip http port</b> command has been introduced. |



## 3.53 ip http proxy

**Description** Access to a group of commands to configure HTTP proxy. If the proxy is not found, the command tries to create it.

Command with **no** prefix removes the proxy.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** Yes

**Interface type** IP

**Group entry** (config-http-proxy)

**Synopsis**

```
(config)> ip http proxy <name>
(config)> no ip http proxy <name>
```

| Argument | Value         | Description      |
|----------|---------------|------------------|
| name     | <i>String</i> | HTTP proxy name. |

**Example**

```
(config)> ip http proxy TEST
Http::Manager: Proxy "TEST" successfully created.
```

| Version | Description                                           |
|---------|-------------------------------------------------------|
| 2.08    | The <b>ip http proxy</b> command has been introduced. |

### 3.53.1 ip http proxy auth

**Description** Enable authorization for HTTP proxy. By default, the setting is disabled.

Command with **no** prefix disables HTTP proxy authorization.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Interface type** IP

**Synopsis**

```
(config-http-proxy)> auth
(config-http-proxy)> no auth
```

**Example**

```
(config-http-proxy)> auth
Http::Manager: Proxy password auth is enabled.
```

```
(config-http-proxy)> no auth
Http::Manager: Proxy password auth is disabled.
```

**History**

| Version | Description                                                |
|---------|------------------------------------------------------------|
| 2.10    | The <b>ip http proxy auth</b> command has been introduced. |

## 3.53.2 ip http proxy dns-override

**Description**

Enable local DNS overrides for fourth level domains KeenDNS. By default, the setting is enabled.

Note: For the fourth level domain KeenDNS, a static DNS A-record with the address 78.47.125.180 (this is the IP we purchased for the name my.keenetic.net) is added for access in the router's local network.

After disabling this feature, the static DNS A-record with the address 78.47.125.180 is removed from the router's system for the fourth level domain KeenDNS.

Command with **no** prefix disables the feature.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

No

**Interface type**

IP

**Synopsis**

```
(config-http-proxy)> dns-override
```

```
(config-http-proxy)> no dns-override
```

**Example**

```
(config-http-proxy)> dns-override
Http::Proxy: "test": enabled DNS override.
```

```
(config-http-proxy)> no dns-override
Http::Proxy: "test": disabled DNS override.
```

**History**

| Version | Description                                                        |
|---------|--------------------------------------------------------------------|
| 4.03    | The <b>ip http proxy dns-override</b> command has been introduced. |

### 3.53.3 ip http proxy domain

**Description** Set domain name that specifies the [FQDN](#) of the virtual host.

Command with **no** prefix removes the setting.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Interface type** IP

**Synopsis**

```
(config-http-proxy)> domain static <domain>
(config-http-proxy)> no domain
```

**Arguments**

| Argument | Value         | Description    |
|----------|---------------|----------------|
| domain   | <i>String</i> | A domain name. |

**Example**

```
(config-http-proxy)> domain static example.net
Http::Manager: Configured base domain for proxy: test.
```

```
(config-http-proxy)> no domain
Http::Manager: Removed ndns domain for proxy: test.
```

**History**

| Version | Description                                                  |
|---------|--------------------------------------------------------------|
| 2.08    | The <b>ip http proxy domain</b> command has been introduced. |

### 3.53.4 ip http proxy domain ndns

**Description** Set HTTP proxy domain through NDNS. If enabled, setting [ip http proxy domain](#) is deleted.

Command with **no** prefix removes the setting.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Interface type** IP

**Synopsis**

```
(config-http-proxy)> domain ndns
(config-http-proxy)> no domain ndns
```

**Example**

```
(config-http-proxy)> domain ndns
Http::Manager: Configured ndns domain for proxy: test.
```

```
(config-http-proxy)> no domain
Http::Manager: Removed ndns domain for proxy: test.
```

**History**

| Version | Description                                                       |
|---------|-------------------------------------------------------------------|
| 2.08    | The <b>ip http proxy domain ndns</b> command has been introduced. |

## 3.53.5 ip http proxy force-host

**Description**

Enable the Host header rewriting for the upstream.

Command with **no** prefix disables the setting.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

No

**Interface type**

IP

**Synopsis**

```
(config-http-proxy)> force-host <force-host>
```

```
(config-http-proxy)> no force-host
```

**Arguments**

| Argument   | Value         | Description                |
|------------|---------------|----------------------------|
| force-host | <i>String</i> | IP address or domain name. |

**Example**

```
(config-http-proxy)> force-host 192.168.8.1
Http::Proxy: "modem": enabled Host header enforcing to ►
"192.168.8.1".
```

```
(config-http-proxy)> force-host modem.keenetic.pro
Http::Proxy: "modem": enabled Host header enforcing to ►
"modem.keenetic.pro".
```

```
(config-http-proxy)> no force-host
Http::Proxy: "modem": disabled Host header enforcing.
```

**History**

| Version | Description                                                      |
|---------|------------------------------------------------------------------|
| 3.06    | The <b>ip http proxy force-host</b> command has been introduced. |

### 3.53.6 ip http proxy preserve-host

**Description** Set option to save the original header for the host when passing through a proxy.

Command with **no** prefix disable option.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Interface type** IP

**Synopsis**

```
(config-http-proxy)> preserve-host
(config-http-proxy)> no preserve-host
```

**Example**

```
(config-http-proxy)> preserve-host
Http::Manager: Proxy HTTP Host header preservation is enabled.

(config-http-proxy)> no preserve-host
Http::Manager: Proxy HTTP Host header preservation is disabled.
```

**History**

| Version | Description                                                         |
|---------|---------------------------------------------------------------------|
| 2.13    | The <b>ip http proxy preserve-host</b> command has been introduced. |

### 3.53.7 ip http proxy preserve-origin

**Description** Enable the option to save the Origin header for the host when passing through a proxy.

Command with **no** prefix disable option.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Interface type** IP

**Synopsis**

```
(config-http-proxy)> preserve-origin
(config-http-proxy)> no preserve-origin
```

**Example**

```
(config-http-proxy)> preserve-origin
Http::Proxy: "test": enabled Origin header preservation.
```

```
(config-http-proxy)> no preserve-origin
Http::Proxy: "test": disabled Origin header preservation.
```

**History**

| Version | Description                                                           |
|---------|-----------------------------------------------------------------------|
| 4.02    | The <b>ip http proxy preserve-origin</b> command has been introduced. |

## 3.53.8 ip http proxy preserve-referer

**Description** Enable the option to save the Referer header for the host when passing through a proxy.

Command with **no** prefix disable option.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Interface type** IP

**Synopsis**

```
(config-http-proxy)> preserve-referer
(config-http-proxy)> no preserve-referer
```

**Example**

```
(config-http-proxy)> preserve-referer
Http::Proxy: "test": enabled Referer header preservation.
```

```
(config-http-proxy)> no preserve-referer
Http::Proxy: "test": disabled Referer header preservation.
```

**History**

| Version | Description                                                            |
|---------|------------------------------------------------------------------------|
| 4.02    | The <b>ip http proxy preserve-referer</b> command has been introduced. |

## 3.53.9 ip http proxy security-level

**Description** Set the security level for HTTP proxy service. By default, private value is set.

Command with **no** prefix resets setting to default.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Interface type** IP

**Synopsis**

```
(config-http-proxy)> security-level (public | private)
```

```
(config-http-proxy)> no security-level
```

**Arguments**

| Argument | Value          | Description                                                                       |
|----------|----------------|-----------------------------------------------------------------------------------|
| public   | <i>Keyword</i> | Access to the HTTP proxy is allowed for public, private and protected interfaces. |
| private  | <i>Keyword</i> | Access to the HTTP proxy is allowed for private interfaces only.                  |

**Example**

```
(config-http-proxy)> security-level public  
Http::Proxy: "test1": set public security level.
```

```
(config-http-proxy)> no security-level  
Http::Proxy: "test1": unset public security level.
```

**History**

| Version | Description                                                          |
|---------|----------------------------------------------------------------------|
| 3.05    | The <b>ip http proxy security-level</b> command has been introduced. |

## 3.53.10 ip http proxy ssl redirect

**Description**

Enable automatic redirection on domains with SSL certificate for HTTP proxy service. By default, the redirection is enabled.

Command with **no** prefix disables redirection.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

No

**Interface type**

IP

**Synopsis**

```
(config-http-proxy)> ssl redirect
```

```
(config-http-proxy)> no ssl redirect
```

**Example**

```
(config)> ip http ssl redirect  
Http::Proxy: "mytest": enabled SSL redirect.
```

```
(config)> no ip http ssl redirect  
Http::Proxy: "mytest": disabled SSL redirect.
```

**History**

| Version | Description                                                        |
|---------|--------------------------------------------------------------------|
| 4.00    | The <b>ip http proxy ssl redirect</b> command has been introduced. |

## 3.53.11 ip http proxy timeout

**Description**

Configure connection timeout for HTTP proxies. By default, the value 60 is used.

Command with **no** prefix resets timeout to default.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

No

**Interface type**

IP

**Synopsis**

```
(config-http-proxy)> timeout <timeout>
```

```
(config-http-proxy)> no timeout
```

**Arguments**

| Argument | Value          | Description                                         |
|----------|----------------|-----------------------------------------------------|
| timeout  | <i>Integer</i> | Timeout value in the range from 5 to 86400 seconds. |

**Example**

```
(config-http-proxy)> timeout 5  
Http::Proxy: "test": set upstream timeout to "5" s.
```

```
(config-http-proxy)> no timeout  
Http::Proxy: "test": reset upstream timeout.
```

**History**

| Version | Description                                                   |
|---------|---------------------------------------------------------------|
| 4.02    | The <b>ip http proxy timeout</b> command has been introduced. |

## 3.53.12 ip http proxy upstream

**Description**

Set HTTP or HTTPS server address for request redirecting.

Command with **no** prefix removes the setting.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

No



**Interface type** IP

**Synopsis**

```
(config-http-proxy)> upstream (http | https | connect) ( mac | ip | fqdn ) [ port ]
```

```
(config-http-proxy)> no upstream
```

**Arguments**

| Argument | Value              | Description                                       |
|----------|--------------------|---------------------------------------------------|
| http     | <i>Keyword</i>     | HTTP server.                                      |
| https    | <i>Keyword</i>     | HTTPS server.                                     |
| connect  | <i>Keyword</i>     | IP address and the port number of OpenVPN server. |
| mac      | <i>MAC address</i> | MAC address of server.                            |
| ip       | <i>IP address</i>  | IP address of server.                             |
| fqdn     | <i>FQDN</i>        | Full domain name of server.                       |
| port     | <i>Integer</i>     | The port number.                                  |

**Example**

```
(config-http-proxy)> upstream http 192.168.1.1 8080  
Http::Proxy: "test": set http upstream 192.168.1.1, port 8080.
```

```
(config-http-proxy)> upstream https google.com 443  
Http::Proxy: "test": set https upstream google.com, port 443.
```

```
(config-http-proxy)> upstream connect 127.0.0.1 8000  
Http::Proxy: "test": set connect upstream 127.0.0.1, port 8000.
```

```
(config-http-proxy)> no upstream  
Http::Proxy: "test": reset upstream.
```

**History**

| Version | Description                                                    |
|---------|----------------------------------------------------------------|
| 2.08    | The <b>ip http proxy upstream</b> command has been introduced. |
| 3.05    | https keyword was added.                                       |
| 4.03    | connect keyword was added.                                     |

## 3.53.13 ip http proxy x-real-ip

**Description** Enable X-Real-IP and X-Forwarded-For header support for HTTP proxy.  
Command with **no** prefix disables headers.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Interface type** IP**Synopsis**

```
(config-http-proxy)> x-real-ip
```

```
(config-http-proxy)> no x-real-ip
```

**Example**

```
(config-http-proxy)> x-real-ip  
Http::Proxy: "test1": enabled X-Real-IP and X-Forwarded-For ►  
headers.
```

```
(config-http-proxy)> no x-real-ip  
Http::Proxy: "test1": disabled X-Real-IP and X-Forwarded-For ►  
headers.
```

**History**

| Version | Description                                                     |
|---------|-----------------------------------------------------------------|
| 3.05    | The <b>ip http proxy x-real-ip</b> command has been introduced. |

## 3.54 ip http security-level

**Description**

Set the security level for remote access to the Keenetic web interface. By default, private value is set.

**Prefix no**

No

**Change settings**

Yes

**Multiple input**

No

**Interface type**

IP

**Synopsis**

```
(config)> ip http security-level (public [ssl] | private | protected)
```

**Arguments**

| Argument  | Value          | Description                                                                                             |
|-----------|----------------|---------------------------------------------------------------------------------------------------------|
| public    | <i>Keyword</i> | Access to the web interface is allowed for public, private and protected interfaces via HTTP and HTTPS. |
| private   | <i>Keyword</i> | Access to the web interface is allowed for private interfaces.                                          |
| protected | <i>Keyword</i> | Access to the web interface is allowed for private and protected interfaces.                            |
| ssl       | <i>Keyword</i> | Access to the web interface is allowed for public interfaces via HTTPS only.                            |

**Example**

```
(config)> ip http security-level protected  
Http::Manager: Security level changed to protected.
```

```
(config)> ip http security-level public ssl
Http::Manager: Security level set to public SSL.
```

**History**

| Version | Description                                                    |
|---------|----------------------------------------------------------------|
| 2.08    | The <b>ip http security-level</b> command has been introduced. |
| 3.00    | Parameter <b>ssl</b> was added.                                |

## 3.55 ip http ssl acme debug

**Description** Enable debug for the [ACME](#) service. By default, setting is disabled.  
Command with **no** prefix disables the feature.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Synopsis**

```
(config)> ip http ssl acme debug
(config)> no ip http ssl acme debug
```

**Example**

```
(config)> ip http ssl acme debug
Acme::Client: Enabled debug.

(config)> no ip http ssl acme debug
Acme::Client: Disabled debug.
```

**History**

| Version | Description                                                    |
|---------|----------------------------------------------------------------|
| 4.03    | The <b>ip http ssl acme debug</b> command has been introduced. |

## 3.56 ip http ssl acme ecdsa

**Description** Enable support for certificates based on ECDSA cryptography.  
Command with **no** prefix disables the feature.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Synopsis**

```
(config)> ip http ssl acme ecdsa
```

```
(config)> no ip http ssl acme ecdsa
```

**Example**

```
(config)> ip http ssl acme ecdsa
Acme::Client: Enabled ECDSA chain.
```

```
(config)> no ip http ssl acme ecdsa
Acme::Client: Disabled ECDSA chain.
```

**History**

| Version | Description                                                    |
|---------|----------------------------------------------------------------|
| 3.09    | The <b>ip http ssl acme ecdsa</b> command has been introduced. |

## 3.57 ip http ssl acme get

**Description** Generate and sign SSL certificate for the specified domain name (by default, KeenDNS). Access from the Internet should be granted.

**Prefix no** No

**Change settings** No

**Multiple input** No

**Synopsis**

```
(config)> ip http ssl acme get [ <domain> ]
```

**Arguments**

| Argument | Value         | Description          |
|----------|---------------|----------------------|
| domain   | <i>String</i> | KeenDNS domain name. |

**Example**

```
(config)> ip http ssl acme get mytest.keenetic.pro
Acme::Client: Obtaining certificate for domain ►
"mytest.keenetic.pro" is started.
```

**History**

| Version | Description                                                  |
|---------|--------------------------------------------------------------|
| 2.11    | The <b>ip http ssl acme get</b> command has been introduced. |

## 3.58 ip http ssl acme revoke

**Description** Revoke and remove SSL certificate for the specified domain name (KeenDNS, by default).

**Prefix no** No

**Change settings** No

**Multiple input** No

**Synopsis**

```
(config)> ip http ssl acme revoke <revoke>
```

**Arguments**

| Argument | Value         | Description          |
|----------|---------------|----------------------|
| revoke   | <i>String</i> | KeenDNS domain name. |

**Example**

```
(config)> ip http ssl acme revoke mytest.keenetic.pro
Acme::Client: Revoking certificate for domain ►
"mytest.keenetic.pro" is started.
```

**History**

| Version | Description                                                     |
|---------|-----------------------------------------------------------------|
| 2.11    | The <b>ip http ssl acme revoke</b> command has been introduced. |

## 3.59 ip http ssl acme list

**Description**

Show a list of free Let`s Encrypt certificates in the system.

**Prefix no**

No

**Change settings**

No

**Multiple input**

No

**Synopsis**

```
(config)> ip http ssl acme list
```

**Example**

```
(config)> ip http ssl acme list
certificate:
    domain: cc6b5a71a7644903b51a5454.keenetic.io
should-be-renewed: no
is-expired: no
issue-time: 2018-06-20T09:16:30.000Z
expiration-time: 2018-09-17T09:16:30.000Z

certificate:
    domain: mytest.keenetic.pro
should-be-renewed: no
is-expired: no
issue-time: 2018-06-28T16:36:56.000Z
expiration-time: 2018-09-25T16:36:56.000Z
```

**History**

| Version | Description                                                   |
|---------|---------------------------------------------------------------|
| 2.11    | The <b>ip http ssl acme list</b> command has been introduced. |

## 3.60 ip http ssl enable

**Description** Enable HTTP SSL server. By default, the server is disabled.

Command with **no** prefix disables SSL server.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Interface type** IP

**Synopsis**

```
(config)> ip http ssl enable
(config)> no ip http ssl enable
```

**Example**

```
(config)> ip http ssl enable
Http::Manager: Enabled SSL service.

(config)> no ip http ssl enable
Http::Manager: Disabled SSL service.
```

**History**

| Version | Description                                                |
|---------|------------------------------------------------------------|
| 2.07    | The <b>ip http ssl enable</b> command has been introduced. |

## 3.61 ip http ssl port

**Description** Assign HTTPS port for Web interface of Sprinter. By default, 443 value is used.

Command with **no** prefix resets HTTPS port to default.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Interface type** IP

**Synopsis**

```
(config)> ip http ssl port <port>
(config)> no ip http ssl port
```

**Arguments**

| Argument | Value          | Description     |
|----------|----------------|-----------------|
| port     | <i>Integer</i> | New HTTPS port. |

**Example**

```
(config)> ip http ssl port 4343
Http::Manager: SSL port changed to 4343.
```

```
(config)> no ip http ssl port
Http::Manager: SSL port reset to 443.
```

**History**

| Version | Description                                              |
|---------|----------------------------------------------------------|
| 4.00    | The <b>ip http ssl port</b> command has been introduced. |

## 3.62 ip http ssl redirect

**Description**

Enable automatic redirection on domains with SSL certificate. By default, the redirection is enabled.

Command with **no** prefix disables redirection.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

No

**Interface type**

IP

**Synopsis**

```
(config)> ip http ssl redirect
```

```
(config)> no ip http ssl redirect
```

**Example**

```
(config)> ip http ssl redirect
Http::Manager: Redirect to SSL is enabled.
```

```
(config)> no ip http ssl redirect
Http::Manager: Redirect to SSL is disabled.
```

**History**

| Version | Description                                                  |
|---------|--------------------------------------------------------------|
| 2.11    | The <b>ip http ssl redirect</b> command has been introduced. |

## 3.63 ip http x-frame-options

**Description**

Set X-Frame-Options header value for web server (nginx) in Home network segment.

Command with **no** prefix disables the feature.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input** No**Interface type** IP

**Synopsis**

```
(config)> ip http x-frame-options <x-frame-options>
```

```
(config)> no ip http x-frame-options <x-frame-options>
```

**Arguments**

| Argument        | Value         | Description               |
|-----------------|---------------|---------------------------|
| x-frame-options | <i>String</i> | The X-Frame-Option value. |

**Example**

```
(config)> ip http x-frame-options DENY
Http::Manager: Set X-Frame-Options to "DENY".
```

```
(config)> no ip http x-frame-options DENY
Http::Manager: Disabled X-Frame-Options header.
```

**History**

| Version | Description                                                     |
|---------|-----------------------------------------------------------------|
| 3.05    | The <b>ip http x-frame-options</b> command has been introduced. |

## 3.64 ip name-server

**Description**

Configure DNS server IP addresses. Addresses saved in this fashion are called static as opposite to dynamic — as registered by [PPP](#) or [DHCP](#) services.

Active, that addressed being used are the ones that have been registered most recently as compared to the others. Usually, the system uses the addresses which were obtained by several recent successfully connected [PPP](#) or [DHCP](#) services. If none of the services registers [DNS](#) addresses, static settings will be active. However, if after registering dynamic addresses the static settings are changed by the user, they become active until the new dynamic addresses are registered.

**ip name-server** command can be entered multiple times if several DNS-server addresses need to be setup. Moreover, each entered address can be associated with one or more domain names for working with specific areas, such as local names in the corporate network.

Command with **no** prefix removes the specified DNS server address from the static and the active lists if the command is furnished with arguments. If you use no arguments, the entire list of static addresses will be removed.

**Prefix no** Yes**Change settings** Yes**Multiple input** Yes**Interface type** IP



**Synopsis**

```
(config)> ip name-server <address> [ : <port> ] [ <domain> ] on <interface>
]]

(config)> no ip name-server [ <address> [ : <port> ] ] [ <domain> ] on
<interface> ] ]
```

**Arguments**

| Argument  | Value             | Description                                                                                                                                                                                                                                                                                                                 |
|-----------|-------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| address   | <i>IP address</i> | Name server address.                                                                                                                                                                                                                                                                                                        |
| port      | <i>Integer</i>    | Name server port.                                                                                                                                                                                                                                                                                                           |
| domain    | <i>String</i>     | Domain for which the server will be used. In resolving names the DNS-proxy first selects the address of the server with name best matching the requested domain. If the domain is not specified, the server will be used for all requests. Use "" as default domain. The maximum number of domains per one DNS entry is 16. |
| interface | <i>Interface</i>  | Interface name to configure.                                                                                                                                                                                                                                                                                                |

**Example**

```
(config)> ip name-server 8.8.8.8 "" on ISP
Dns::InterfaceSpecific: Name server 8.8.8.8 added, domain ►
(default), interface ISP.
```

```
(config)> no ip name-server
Dns::Manager: Static name server list cleared.
```

**History**

| Version | Description                                            |
|---------|--------------------------------------------------------|
| 2.00    | The <b>ip name-server</b> command has been introduced. |
| 2.14    | Argument port was added.                               |

## 3.65 ip nat

**Description**

Enable translation of “local” addresses of network *network* or network behind the interface *interface*. For example, command `ip nat Home` means that all packets from the network Home, passing through the router will undergo IP spoofing.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** Yes

**Interface type** IP

**Synopsis**

```
(config)> ip nat ( <interface> | <address> <mask> )
```

```
(config)> no ip nat ( <interface> | <address> <mask> )
```

**Arguments**

| Argument  | Value             | Description                                                                                                                                                              |
|-----------|-------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| interface | <i>Interface</i>  | Source interface name (full name or an alias).                                                                                                                           |
| address   | <i>IP address</i> | Together with mask <i>mask</i> sets the range of source IP addresses to be translated.                                                                                   |
| mask      | <i>IP-mask</i>    | Mask of a translation range. There are two ways to enter the mask: the canonical form (for example, 255.255.255.0) and the form of prefix bit length (for example, /24). |

**Example**

```
(config)> ip nat Home
Network::Nat: A NAT rule added.
```

```
(config)> no ip nat Home
Network::Nat: A NAT rule removed.
```

**History**

| Version | Description                                    |
|---------|------------------------------------------------|
| 2.00    | The <b>ip nat</b> command has been introduced. |

## 3.66 ip nat full-cone

**Description**

Enable mode *Full Cone NAT*. By default, the mode is disabled.

Command with **no** prefix disables the mode.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

No

**Interface type**

IP

**Synopsis**

```
(config)> ip nat full-cone
```

```
(config)> no ip nat full-cone
```

**Example**

```
(config)> ip nat full-cone
Network::Nat: Full cone mode enabled.
```

```
(config)> no ip nat full-cone
Network::Nat: Full cone mode disabled.
```

**History**

| Version | Description                                              |
|---------|----------------------------------------------------------|
| 3.01    | The <b>ip nat full-cone</b> command has been introduced. |

## 3.67 ip nat oc

| <b>Description</b>     | <p>Enable translation for <i>OpenConnect</i> clients.</p> <p>Note: Command is available if the <i>OpenConnect</i> VPN server component is installed.</p> <p>Command with <b>no</b> prefix removes the rule.</p> |         |             |      |                                                   |
|------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|-------------|------|---------------------------------------------------|
| <b>Prefix no</b>       | Yes                                                                                                                                                                                                             |         |             |      |                                                   |
| <b>Change settings</b> | Yes                                                                                                                                                                                                             |         |             |      |                                                   |
| <b>Multiple input</b>  | No                                                                                                                                                                                                              |         |             |      |                                                   |
| <b>Interface type</b>  | IP                                                                                                                                                                                                              |         |             |      |                                                   |
| <b>Synopsis</b>        | <pre>(config)&gt; ip nat oc</pre> <pre>(config)&gt; no ip nat oc</pre>                                                                                                                                          |         |             |      |                                                   |
| <b>Example</b>         | <pre>(config)&gt; ip nat oc</pre> <p>OcServer::Nat: OpenConnect VPN NAT enabled.</p> <pre>(config)&gt; no ip nat oc</pre> <p>OcServer::Nat: OpenConnect VPN NAT disabled.</p>                                   |         |             |      |                                                   |
| <b>History</b>         | <table border="1"> <thead> <tr> <th>Version</th><th>Description</th></tr> </thead> <tbody> <tr> <td>4.02</td><td>The <b>ip nat oc</b> command has been introduced.</td></tr> </tbody> </table>                  | Version | Description | 4.02 | The <b>ip nat oc</b> command has been introduced. |
| Version                | Description                                                                                                                                                                                                     |         |             |      |                                                   |
| 4.02                   | The <b>ip nat oc</b> command has been introduced.                                                                                                                                                               |         |             |      |                                                   |

## 3.68 ip nat restricted-cone

|                        |                                                                                                                                     |
|------------------------|-------------------------------------------------------------------------------------------------------------------------------------|
| <b>Description</b>     | <p>Enable mode <i>Restricted NAT</i>. By default, the mode is disabled.</p> <p>Command with <b>no</b> prefix disables the mode.</p> |
| <b>Prefix no</b>       | Yes                                                                                                                                 |
| <b>Change settings</b> | Yes                                                                                                                                 |
| <b>Multiple input</b>  | No                                                                                                                                  |
| <b>Interface type</b>  | IP                                                                                                                                  |
| <b>Synopsis</b>        | <pre>(config)&gt; ip nat restricted-cone</pre> <pre>(config)&gt; no ip nat restricted-cone</pre>                                    |
| <b>Example</b>         | <pre>(config)&gt; ip nat restricted-cone</pre> <p>Network::Nat: Restricted cone mode enabled.</p>                                   |

```
(config)> no ip nat restricted-cone
Network::Nat: Restricted cone mode disabled.
```

**History**

| Version | Description                                                    |
|---------|----------------------------------------------------------------|
| 3.01    | The <b>ip nat restricted-cone</b> command has been introduced. |

## 3.69 ip nat sstp

**Description**

Enable translation for *SSTP* clients.

Note: Command is available if the *SSTP* VPN server component is installed.

Command with **no** prefix removes the rule.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

No

**Interface type**

IP

**Synopsis**

```
(config)> ip nat sstp
```

```
(config)> no ip nat sstp
```

**Example**

```
(config)> ip nat sstp
SstpServer::Nat: SSTP VPN NAT enabled.
```

```
(config)> no ip nat sstp
SstpServer::Nat: SSTP VPN NAT disabled.
```

**History**

| Version | Description                                         |
|---------|-----------------------------------------------------|
| 2.12    | The <b>ip nat sstp</b> command has been introduced. |

## 3.70 ip nat vpn

**Description**

Enable translation for PPTP clients.

Note: Command is available if the PPTP VPN server component is installed.

Command with **no** prefix removes the rule.

**Prefix no**

Yes

**Change settings** Yes**Multiple input** No**Interface type** IP

**Synopsis**

```
(config)> ip nat vpn
```

```
(config)> no ip nat vpn
```

**Example**

```
(config)> ip nat vpn
VpnServer::Nat: PPTP VPN NAT enabled.
```

```
(config)> no ip nat vpn
VpnServer::Nat: PPTP VPN NAT disabled.
```

**History**

| Version | Description                                        |
|---------|----------------------------------------------------|
| 2.04    | The <b>ip nat vpn</b> command has been introduced. |

## 3.71 ip policy

**Description** Access to a group of commands to configure IP Policy — a default route selection rules for hosts and home network segments. If the IP Policy profile is not found, the command tries to create it. You can enter up to 64 profiles.

Command with **no** prefix removes the defined IP Policy profile from the list.

**Prefix no** Yes**Change settings** Yes**Multiple input** Yes**Group entry** (config-policy)

**Synopsis**

```
(config)> ip policy <name>
```

```
(config)> no ip policy <name>
```

**Arguments**

| Argument | Value         | Description                                                                                                  |
|----------|---------------|--------------------------------------------------------------------------------------------------------------|
| name     | <i>Policy</i> | IP Policy name. Latin letters, numbers, hyphens and underscores are acceptable. Not more than 32 characters. |

**Example**

```
(config)> ip policy Policy0
Network::PolicyTable: Created policy "Policy0".
```

```
(config)> no ip policy Policy0
Network::PolicyTable: Removed policy "Policy0".
```

**History**

| Version | Description                                       |
|---------|---------------------------------------------------|
| 2.12    | The <b>ip policy</b> command has been introduced. |

## 3.71.1 ip policy description

**Description**

Assign an arbitrary description to the specified IP Policy profile.

Command with **no** prefix removes description.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

No

**Interface type**

IP

**Synopsis**

```
(config-policy)> description <description>
```

```
(config-policy)> no description
```

**Arguments**

| Argument    | Value         | Description                                                                                                                              |
|-------------|---------------|------------------------------------------------------------------------------------------------------------------------------------------|
| description | <i>String</i> | An arbitrary description of the IP Policy. Latin letters, numbers, hyphens and underscores are acceptable. Not more than 256 characters. |

**Example**

```
(config-policy)> description PolicyOne  
Network::PolicyTable: "Policy0": updated description.
```

```
(config-policy)> no description  
Network::PolicyTable: "Policy0": updated description.
```

**History**

| Version | Description                                                   |
|---------|---------------------------------------------------------------|
| 2.12    | The <b>ip policy description</b> command has been introduced. |

## 3.71.2 ip policy ipv6 route

**Description**

Add a static route to the routing table to describe a rule of IPv6-packets transmission through a particular gateway or network interface for IP Policy specific.

Command with **no** prefix removes the IPv6 route with the specified parameters.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input** Yes

**Interface type** IP

**Synopsis**

```
(config-policy)> ipv6 route <prefix> (<interface> [<gateway>] | <gateway>
) [auto] [<metric>] [reject]

(config-policy)> no ipv6 route <prefix> (<interface> [<gateway>] | <gateway>
)
```

#### Arguments

| Argument  | Value             | Description                                                                                                                                                                                                                                                                                      |
|-----------|-------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| prefix    | <i>Prefix</i>     | IPv6 prefix.                                                                                                                                                                                                                                                                                     |
| interface | <i>Interface</i>  | Full interface name or an alias.                                                                                                                                                                                                                                                                 |
| gateway   | <i>IP address</i> | IP address of the router in a directly connected network.                                                                                                                                                                                                                                        |
| auto      | <i>Keyword</i>    | Allows you to apply the route when specified gateway becomes available.                                                                                                                                                                                                                          |
| metric    | <i>Integer</i>    | Route metrics. Ignored in the current implementation.                                                                                                                                                                                                                                            |
| reject    | <i>Keyword</i>    | Enable route to use only the selected interface for routing the traffic to the specified destination. If the specified interface is not active, the traffic is not sent via other possible routes. This option works only when using the auto option and cannot be applied to the default route. |

#### Example

```
(config-policy)> ipv6 route 2002:c100:aeb5::/48 ISP auto reject
Network::Ip6::RoutingTable: Added static route: ►
2002:c100:aeb5:100::/56 via ISP.
```

```
(config-policy)> ipv6 route 2002:c100:aeb5::/48 ISP
Network::Ip6::RoutingTable: Added static route: ►
2002:c100:aeb5::/48 via ISP.
```

```
(config-policy)> no ipv6 route 2002:c100:aeb5::/48 ISP
Network::Ip6::RoutingTable: Deleted static route: ►
2002:c100:aeb5::/48 via ISP.
```

#### History

| Version | Description                                                  |
|---------|--------------------------------------------------------------|
| 4.03    | The <b>ip policy ipv6 route</b> command has been introduced. |

## 3.71.3 ip policy multipath

**Description** Enable the function of simultaneous use of WAN connections in the balancing mode.

Command with **no** prefix disables the function.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Interface type** IP

**Synopsis**

```
(config-policy)> multipath
(config-policy)> no multipath
```

**Example**

```
(config-policy)> multipath
Network::PolicyTable: "Policy0": enable multipath.

(config-policy)> no multipath
Network::PolicyTable: "Policy0": disable multipath.
```

**History**

| Version | Description                                                 |
|---------|-------------------------------------------------------------|
| 2.14    | The <b>ip policy multipath</b> command has been introduced. |

## 3.71.4 ip policy permit

**Description** Permit IP Policy for the global interface. If single IP Policy is permitted for multiple interfaces, you can specify a priority for each of them.

Command with **no** prefix denies the IP Policy for specified interface. If you use no arguments, IP Policy will be denied for the entire list of interfaces.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** Yes

**Interface type** IP

**Synopsis**

```
(config-policy)> permit global <interface> [ order <order> ]
(config-policy)> no permit [ global <interface> ]
```

**Arguments**

| Argument  | Value            | Description                                                                                                                                                            |
|-----------|------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| interface | <i>Interface</i> | Full interface name or an alias.                                                                                                                                       |
| order     | <i>Integer</i>   | The priority of global interface to which the IP Policy is permitted. Can take values in the range from 1 to 65534, but not more than the number of global interfaces. |



**Example**

```
(config-policy)> permit global L2TP0 order 0
Network::PolicyTable: "Policy0": set permission to use L2TP0.
```

```
(config-policy)> no permit global L2TP0
Network::PolicyTable: "Policy0": set no permission to use L2TP0.
```

**History**

| Version | Description                                              |
|---------|----------------------------------------------------------|
| 2.12    | The <b>ip policy permit</b> command has been introduced. |

## 3.71.5 ip policy permit auto

**Description**

Permit new connections for the IP Policy automatically. By default, the feature is disabled.

Command with **no** prefix removes auto permission.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

No

**Interface type**

IP

**Synopsis**

```
(config-policy)> permit auto
```

```
(config-policy)> no permit auto
```

**Example**

```
(config-policy)> permit auto
Network::PolicyTable: "Policy0": set auto permission.
```

```
(config-policy)> no permit auto
Network::PolicyTable: "Policy0": set auto permission.
```

**History**

| Version | Description                                                   |
|---------|---------------------------------------------------------------|
| 2.12    | The <b>ip policy permit auto</b> command has been introduced. |

## 3.71.6 ip policy rate-limit input

**Description**

Add the input rate-limiting parameters to global interfaces of the IP Policy.

Command with **no** prefix removes the setting.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

No

**Interface type** IP

**Synopsis**

```
(config-policy)> rate-limit <interface> input (<rate> | auto)
```

```
(config-policy)> no rate-limit <interface> input
```

**Arguments**

| Argument  | Value            | Description                                                                                  |
|-----------|------------------|----------------------------------------------------------------------------------------------|
| interface | <i>Interface</i> | The name of a global IP interface to rate-limit its traffic for a group of policy assignees. |
| rate      | <i>Integer</i>   | The ingress rate limit in kbps. Can take values in the range from 64 to 1000000.             |
| auto      | <i>Keyword</i>   | Auto-ingress mode.                                                                           |

**Example**

```
(config-policy)> rate-limit WifiMaster1/WifiStation0 input auto
Network::PolicyTable: "Policy0": set input rate limit to "auto".
```

```
(config-policy)> rate-limit WifiMaster1/WifiStation0 input 100000
Network::PolicyTable: "Policy0": set input rate limit to "100000" ►
kbps.
```

```
(config-policy)> rate-limit WifiMaster1/WifiStation0 no input
Network::PolicyTable: "Policy0": reset input rate limit.
```

**History**

| Version | Description                                                        |
|---------|--------------------------------------------------------------------|
| 3.05    | The <b>ip policy rate-limit input</b> command has been introduced. |

## 3.71.7 ip policy rate-limit output

**Description** Add output rate-limiting parameters to global interfaces of the IP Policy.

Command with **no** prefix removes the setting.

**Prefix no** Yes**Change settings** Yes**Multiple input** No**Interface type** IP

**Synopsis**

```
(config-policy)> rate-limit <interface> output (<rate> | auto)
```

```
(config-policy)> no rate-limit <interface> output
```

**Arguments**

| Argument  | Value            | Description                                                                                  |
|-----------|------------------|----------------------------------------------------------------------------------------------|
| interface | <i>Interface</i> | The name of a global IP interface to rate-limit its traffic for a group of policy assignees. |
| rate      | <i>Integer</i>   | The ingress rate limit in kbps. Can take values in the range from 64 to 1000000.             |
| auto      | <i>Keyword</i>   | Auto-ingress mode.                                                                           |

**Example**

```
(config-policy)> rate-limit ISP output auto
Network::PolicyTable: "Policy0": set output rate limit to "auto".
```

```
(config-policy)> rate-limit ISP output 1000
Network::PolicyTable: "Policy0": set output rate limit to "1000" ►
kbps.
```

```
(config-policy)> rate-limit ISP no output
Network::PolicyTable: "Policy0": reset ouput rate limit.
```

**History**

| Version | Description                                                         |
|---------|---------------------------------------------------------------------|
| 3.05    | The <b>ip policy rate-limit output</b> command has been introduced. |
| 3.08    | The <b>auto</b> argument has been added.                            |

## 3.71.8 ip policy route

**Description**

Add a static route to the routing table to describe a rule of IP-packets transmission through a particular gateway or network interface for IP Policy specific.

Command with **no** prefix removes the route with the specified parameters.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

Yes

**Interface type**

IP

**Synopsis**

```
(config-policy)> route ( <network> <mask> | <host> ) ( <gateway> [ <network>
] | <interface> ) [ auto ] [ <metric> ] [ reject ]
```

```
(config-policy)> no route ( <network> <mask> | <host> ) [ <interface> | <gateway>
] [ <metric> ]
```

**Arguments**

| Argument | Value             | Description                            |
|----------|-------------------|----------------------------------------|
| network  | <i>IP address</i> | IP address of the destination network. |

| Argument  | Value             | Description                                                                                                                                                                                                                                                                                                                                                                                     |
|-----------|-------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| mask      | <i>IP-mask</i>    | Mask of the destination network. There are two ways to enter the mask: in the canonical form (for example, 255.255.255.0) and in the form of prefix bit length (for example, /24).                                                                                                                                                                                                              |
| host      | <i>IP address</i> | IP address of the destination node.                                                                                                                                                                                                                                                                                                                                                             |
| interface | <i>Interface</i>  | Interface full name or an alias. Specified as the direction of the packet transferring, if the interface has a point-to-point channel connected that requires no additional addressing within the channel.<br><br>If priority <b>interface ip global</b> is set on the interface, the route is added to the system table only if there is no other higher priority route with the same address. |
| gateway   | <i>IP address</i> | IP address of the router in a directly connected network. Can be specified along with the interface name, if it is required to specify <b>interface ip global</b> priority. If no interface is specified, the systemd determines it automatically based on the current IP settings.                                                                                                             |
| auto      | <i>Keyword</i>    | Allows you to apply the route when specified gateway becomes available.                                                                                                                                                                                                                                                                                                                         |
| metric    | <i>Integer</i>    | Route metrics. Ignored in the current implementation.                                                                                                                                                                                                                                                                                                                                           |
| reject    | <i>Keyword</i>    | Enable route to use only the selected interface for routing the traffic to the specified destination. If the specified interface is not active, the traffic is not sent via other possible routes. This option works only when using the auto option and cannot be applied to the default route.                                                                                                |

**Example**

```
(config-policy)> route 123.123.123.123 Wireguard1 auto reject
Network::RoutingTable: Added static route: 123.123.123.123/32 ►
via Wireguard1.
```

```
(config-policy)> no route 123.123.123.123 Wireguard1
Network::RoutingTable: Deleted static route: 123.123.123.123/32 ►
via Wireguard1.
```

```
(config-policy)> no route 123.123.123.123
Network::RoutingTable: Deleted static route: 123.123.123.123/32 ►
via Wireguard1.
```

**History**

| Version | Description                                             |
|---------|---------------------------------------------------------|
| 4.03    | The <b>ip policy route</b> command has been introduced. |

### 3.71.9 ip policy standalone

| <b>Description</b>     | Enable "standalone" mode, which static routes through interfaces with the "global" property are not automatically copied from the main settings to the selected IP policy profile.                                                    |         |             |      |                                                              |
|------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|-------------|------|--------------------------------------------------------------|
| <b>Description</b>     | <p>Command with <b>no</b> prefix disables the function.</p> <p>Yes</p>                                                                                                                                                                |         |             |      |                                                              |
| <b>Change settings</b> | Yes                                                                                                                                                                                                                                   |         |             |      |                                                              |
| <b>Multiple input</b>  | No                                                                                                                                                                                                                                    |         |             |      |                                                              |
| <b>Interface type</b>  | IP                                                                                                                                                                                                                                    |         |             |      |                                                              |
| <b>Synopsis</b>        | <pre>(config-policy)&gt; <b>standalone</b></pre> <pre>(config-policy)&gt; <b>no standalone</b></pre>                                                                                                                                  |         |             |      |                                                              |
| <b>Example</b>         | <pre>(config-policy)&gt; <b>standalone</b></pre> <p>Network::PolicyTable: "Policy0": enable standalone mode.</p> <pre>(config-policy)&gt; <b>no standalone</b></pre> <p>Network::PolicyTable: "Policy0": disable standalone mode.</p> |         |             |      |                                                              |
| <b>History</b>         | <table> <tr> <th>Version</th><th>Description</th></tr> <tr> <td>4.02</td><td>The <b>ip policy standalone</b> command has been introduced.</td></tr> </table>                                                                          | Version | Description | 4.02 | The <b>ip policy standalone</b> command has been introduced. |
| Version                | Description                                                                                                                                                                                                                           |         |             |      |                                                              |
| 4.02                   | The <b>ip policy standalone</b> command has been introduced.                                                                                                                                                                          |         |             |      |                                                              |

### 3.72 ip route

|                        |                                                                                                                                                                                                                                                                                                                                                          |
|------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Description</b>     | <p>Add a static route to the routing table to describe a rule of IP-packets transmission through a particular gateway or network interface.</p> <p>As the destination network, one can specify default keyword. In this case, a default route will be created.</p> <p>Command with <b>no</b> prefix removes the route with the specified parameters.</p> |
| <b>Prefix no</b>       | Yes                                                                                                                                                                                                                                                                                                                                                      |
| <b>Change settings</b> | Yes                                                                                                                                                                                                                                                                                                                                                      |
| <b>Multiple input</b>  | Yes                                                                                                                                                                                                                                                                                                                                                      |
| <b>Interface type</b>  | IP                                                                                                                                                                                                                                                                                                                                                       |
| <b>Synopsis</b>        | <pre>(config)&gt; <b>ip route</b> ( &lt;network&gt; &lt;mask&gt;   &lt;host&gt;   <b>default</b> ) ( &lt;gateway&gt; [ &lt;interface&gt;   &lt;interface&gt; ) [<b>auto</b>] [<i>metric</i>] [<b>reject</b>]</pre>                                                                                                                                       |

```
(config)> no ip route ( <network> <mask> | <host> | default ) [ <gateway> | <interface> ] [metric]
```

### Arguments

| Argument  | Value             | Description                                                                                                                                                                                                                                                                                                                                                                                     |
|-----------|-------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| network   | <i>IP address</i> | IP address of the destination network.                                                                                                                                                                                                                                                                                                                                                          |
| mask      | <i>IP-mask</i>    | Mask of the destination network. There are two ways to enter the mask: in the canonical form (for example, 255.255.255.0) and in the form of prefix bit length (for example, /24).                                                                                                                                                                                                              |
| host      | <i>IP address</i> | IP address of the destination node.                                                                                                                                                                                                                                                                                                                                                             |
| default   | <i>Keyword</i>    | Helps specify default routes.                                                                                                                                                                                                                                                                                                                                                                   |
| interface | <i>Interface</i>  | Interface full name or an alias. Specified as the direction of the packet transferring, if the interface has a point-to-point channel connected that requires no additional addressing within the channel.<br><br>If priority <b>interface ip global</b> is set on the interface, the route is added to the system table only if there is no other higher priority route with the same address. |
| gateway   | <i>IP address</i> | IP address of the router in a directly connected network. Can be specified along with the interface name, if it is required to specify <b>interface ip global</b> priority. If no interface is specified, the systemd determines it automatically based on the current IP settings.                                                                                                             |
| auto      | <i>Keyword</i>    | Allows you to apply the route when specified gateway becomes available.                                                                                                                                                                                                                                                                                                                         |
| metric    | <i>Integer</i>    | Route metrics. Ignored in the current implementation.                                                                                                                                                                                                                                                                                                                                           |
| reject    | <i>Keyword</i>    | Enable route to use only the selected interface for routing the traffic to the specified destination. If the specified interface is not active, the traffic is not sent via other possible routes. This option works only when using the auto option and cannot be applied to the default route.                                                                                                |

### Example

```
(config)> ip route default Home
Network::RoutingTable: Added static route: 0.0.0.0/0 via Home.
```

```
(config)> ip route 123.123.123.123 Wireguard1 auto reject
Network::RoutingTable: Added static route: 123.123.123.123/32 ►
via Wireguard1.
```

```
(config)> no ip route 123.123.123.123 Wireguard1
Network::RoutingTable: Deleted static route: 123.123.123.123/32 ►
via Wireguard1.
```

```
(config)> no ip route default
Network::RoutingTable: No such route: 0.0.0.0/0.
```

**History**

| Version | Description                                      |
|---------|--------------------------------------------------|
| 2.00    | The <b>ip route</b> command has been introduced. |
| 3.08    | The reject option was added.                     |

## 3.73 ip search-domain

**Description** Assign search domain to resolve hostnames that are not fully qualified.  
Command with **no** prefix removes the setting.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Synopsis**

```
(config)> ip search-domain <domain>
```

```
(config)> no ip search-domain
```

**Arguments**

| Argument | Value         | Description                |
|----------|---------------|----------------------------|
| domain   | <i>String</i> | The domain name to assign. |

**Example**

```
(config)> ip search-domain my.example
```

```
(config)> no ip search-domain my.example
```

**History**

| Version | Description                                              |
|---------|----------------------------------------------------------|
| 2.00    | The <b>ip search-domain</b> command has been introduced. |

## 3.74 ip sip alg direct-media

**Description** Replace IP address in Owner field of SDP. This feature is used to not configure port forwarding separately for VoIP traffic. By default, the setting is disabled.

Command with **no** prefix disables the feature.

**Prefix no** Yes

**Change settings** Yes**Multiple input** No

**Synopsis**

```
(config)> ip sip alg direct-media
```

```
(config)> no ip sip alg direct-media
```

**Example**

```
(config)> ip sip alg direct-media
Sip::Alg: Direct media enabled.
```

```
(config)> no ip sip alg direct-media
Sip::Alg: Direct media disabled.
```

**History**

| Version | Description                                                     |
|---------|-----------------------------------------------------------------|
| 2.11    | The <b>ip sip alg direct-media</b> command has been introduced. |

## 3.75 ip sip alg port

**Description** Specify a port number for SIP messages other than the default port. By default, port number is 5060.

Command with **no** prefix resets port to default.

**Prefix no** Yes**Change settings** Yes**Multiple input** No

**Synopsis**

```
(config)> ip sip alg port <port>
```

```
(config)> no ip sip alg port
```

**Arguments**

| Argument | Value          | Description      |
|----------|----------------|------------------|
| port     | <i>Integer</i> | The port number. |

**Example**

```
(config)> ip sip alg port 7090
Sip::Alg: Port set to 7090.
```

```
(config)> no ip sip alg port
Sip::Alg: Port reset to default.
```

**History**

| Version | Description                                             |
|---------|---------------------------------------------------------|
| 2.12    | The <b>ip sip alg port</b> command has been introduced. |



## 3.76 ip ssh

**Description** Access to a group of commands to manage SSH-server.

**Prefix no** No

**Change settings** No

**Multiple input** No

**Interface type** IP

**Group entry** (config-ssh)

**Synopsis** (config)> **ip ssh**

**Example** (config)> **ip ssh**  
(config-ssh)>

| History | Version | Description                                    |
|---------|---------|------------------------------------------------|
|         | 2.12    | The <b>ip ssh</b> command has been introduced. |

### 3.76.1 ip ssh cipher

**Description** Set a symmetric key cipher for SSH session.  
Command with **no** prefix removes the specified cipher.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** Yes

**Interface type** IP

**Synopsis** (config-ssh)> **cipher** <cipher>  
(config-ssh)> **no cipher** <cipher>

| Arguments | Argument | Value                         | Description                                |
|-----------|----------|-------------------------------|--------------------------------------------|
|           | cipher   | chacha20-poly1305@openssh.com | An encryption algorithm ChaCha20-Poly1305. |
|           |          | aes128-ctr                    | An encryption algorithm AES128-CTR.        |
|           |          | aes256-ctr                    | An encryption algorithm AES1256-CTR.       |

| Argument | Value                  | Description                         |
|----------|------------------------|-------------------------------------|
|          | aes128-gcm@openssh.com | An encryption algorithm AES128-GCM. |
|          | aes256-gcm@openssh.com | An encryption algorithm AES256-GCM. |

**Example**

```
(config-ssh)> cipher chacha20-poly1305@openssh.com
Ssh::Manager: Added cipher "chacha20-poly1305@openssh.com".
```

```
(config-ssh)> no cipher chacha20-poly1305@openssh.com
Ssh::Manager: Use default ciphers.
```

**History**

| Version | Description                                           |
|---------|-------------------------------------------------------|
| 3.04    | The <b>ip ssh cipher</b> command has been introduced. |

| Version | Description                                                                          |
|---------|--------------------------------------------------------------------------------------|
| 3.05    | New encryption algorithms aes128-gcm@openssh.com, aes256-gcm@openssh.com were added. |

## 3.76.2 ip ssh keygen

**Description** Regeneration of a given type key.

**Prefix no** No

**Change settings** Yes

**Multiple input** No

**Interface type** IP

**Synopsis** `(config-ssh)> keygen <keygen>`

**Arguments**

| Argument | Value          | Description                                                             |
|----------|----------------|-------------------------------------------------------------------------|
| keygen   | default        | Automatic generation of a new open key RSA2048 + ECDSA-NISTP521.        |
|          | rsa-1024       | Automatic generation of a new open RSA-key with a length of 1024 bits.  |
|          | rsa-2048       | Automatic generation of a new open RSA-key with a length of 2048 bits.  |
|          | rsa-4096       | Automatic generation of a new open RSA-key with a length of 4096 bits.  |
|          | ecdsa-nistp256 | Automatic generation of a new open ECDSA-key with a length of 256 bits. |
|          | ecdsa-nistp384 | Automatic generation of a new open ECDSA-key with a length of 384 bits. |

| Argument | Value          | Description                                                               |
|----------|----------------|---------------------------------------------------------------------------|
|          | ecdsa-nistp521 | Automatic generation of a new open ECDSA-key with a length of 521 bits.   |
|          | ed25519        | Automatic generation of a new open ED25519 key with a length of 256 bits. |

**Example**

```
(config-ssh)> keygen default
Ssh::Manager: Key generation is in progress...
```

**History**

| Version | Description                                           |
|---------|-------------------------------------------------------|
| 2.12    | The <b>ip ssh keygen</b> command has been introduced. |

### 3.76.3 ip ssh lockout-policy

**Description**

Set SSH bruteforce detection parameters for public interfaces. By default, feature is enabled. If you use 0 as an argument, all bruteforce detection parameters will be reset to default.

Command with **no** prefix disables bruteforce detection.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

No

**Interface type**

IP

**Synopsis**

```
(config-ssh)> lockout-policy <threshold> [ <duration> [
<observation-window> ]]
```

```
(config-ssh)> no lockout-policy
```

**Arguments**

| Argument           | Value          | Description                                                                                                                             |
|--------------------|----------------|-----------------------------------------------------------------------------------------------------------------------------------------|
| threshold          | <i>Integer</i> | The number of failed attempts to log in. By default, 5 value is used. Can take values in the range from 4 to 20.                        |
| duration           | <i>Integer</i> | An authorization ban duration for the specified IP in minutes. By default, 15 value is used. Can take values in the range from 1 to 60. |
| observation-window | <i>Integer</i> | Duration of suspicious activity observation in minutes. By default, 3 value is used. Can take values in the range from 1 to 10.         |

**Example**

```
(config-ssh)> lockout-policy 10 30 2
Ssh::Manager: Bruteforce detection is reconfigured.
```

```
(config-ssh)> no lockout-policy
Ssh::Manager: Bruteforce detection is disabled.
```

```
(config-ssh)> lockout-policy 0
Ssh::Manager: Bruteforce detection reset to default.
```

**History**

| Version | Description                                                   |
|---------|---------------------------------------------------------------|
| 2.12    | The <b>ip ssh lockout-policy</b> command has been introduced. |

## 3.76.4 ip ssh port

**Description**

Specify port number for SSH connection. By default, 22 port number is used.

Command with **no** prefix resets port number to default.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

No

**Interface type**

IP

**Synopsis**

```
(config-ssh)> port <number>
```

```
(config-ssh)> no port
```

**Arguments**

| Argument | Value          | Description                                                            |
|----------|----------------|------------------------------------------------------------------------|
| number   | <i>Integer</i> | Port number. Can take values in the range from 1 to 65535 inclusively. |

**Example**

```
(config-ssh)> port 2626
Ssh::Manager: Port changed to 2626.
```

```
(config-ssh)> no port
Ssh::Manager: Port reset to 22.
```

**History**

| Version | Description                                         |
|---------|-----------------------------------------------------|
| 2.12    | The <b>ip ssh port</b> command has been introduced. |

## 3.76.5 ip ssh security-level

**Description**

Set SSH security level. By default, private value is set.

**Prefix no** No

**Change settings** Yes

**Multiple input** No

**Interface type** IP

**Synopsis** `(config-ssh)> security-level (public | private | protected)`

**Arguments**

| Argument  | Value          | Description                                                                       |
|-----------|----------------|-----------------------------------------------------------------------------------|
| public    | <i>Keyword</i> | Access to the SSH server is allowed for public, private and protected interfaces. |
| private   | <i>Keyword</i> | Access to the SSH server is allowed for private interfaces.                       |
| protected | <i>Keyword</i> | Access to the SSH server is allowed for private and protected interfaces.         |

**Example**

```
(config-ssh)> security-level protected
Ssh::Manager: Security level changed to protected.
```

**History**

| Version | Description                                                   |
|---------|---------------------------------------------------------------|
| 2.12    | The <b>ip ssh security-level</b> command has been introduced. |

## 3.76.6 ip ssh session timeout

**Description** Set the lifetime of inactive session for SSH connection. By default, 300 value is used, i.e. the function of activity tracking within a session is disabled.

Command with **no** prefix resets timeout to default.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Interface type** IP

**Synopsis** `(config-ssh)> session timeout <timeout>`

`(config-ssh)> no session timeout`

**Arguments**

| Argument | Value          | Description                                                                                              |
|----------|----------------|----------------------------------------------------------------------------------------------------------|
| timeout  | <i>Integer</i> | The lifetime of inactive session. Can take values in the range from 5 to $2^{32}-1$ seconds inclusively. |

**Example**

```
(config-ssh)> session timeout 123456
Ssh::Manager: A session timeout value set to 123456 seconds.
```

```
(config-ssh)> no session timeout
Ssh::Manager: A session timeout reset.
```

**History**

| Version | Description                                                    |
|---------|----------------------------------------------------------------|
| 3.03    | The <b>ip ssh session timeout</b> command has been introduced. |

## 3.77 ip static

**Description**

Define translation rule for global and local IP addresses. If *interface* or *network* corresponds to the interface with [security level](#) public, then the destination address translation (DNAT) will occur. If *to-address* corresponds to the interface with [security level](#) public, then source address translation (SNAT) will occur. TCP/UDP port number is always treated as the destination port.

If *network* corresponds to a single address and this address is equal to *to-address*, then this rule will prohibit the translation of the specified address, which could have been done based on the specified rules [ip nat](#).

**ip static** rules have higher priority than the [ip nat](#) rules.

When using the translation rule, the router opens access to the specified port, so there is no need to make additional configuration of the firewall.

Command with **no** prefix enables the rule or removes the rule.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

Yes

**Interface type**

IP

**Synopsis**

```
(config)> ip static [ <protocol> ] ( <interface> | ( <address> <mask> ) )
    ( <port> through <end-port> <to-address> | <to-host> |
    <to-interface> ) |
    <port> <to-address> | <to-host> | <to-interface> ) [ <to-port> ] |
    <to-address> | <to-host> | <to-interface> )
```

```
(config)> no ip static [ <protocol> ] ( <interface> | ( <address> <mask> ) )
    ( <port> through <end-port> <to-address> | <to-host> |
    <to-interface> ) |
    <port> <to-address> | <to-host> | <to-interface> ) [ <to-port> ] |
    <to-address> | <to-host> | <to-interface> )
```

**Arguments**

| Argument     | Value              | Description                                                                                                                                                                 |
|--------------|--------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| protocol     | tcp                | <a href="#">TCP</a> protocol.                                                                                                                                               |
|              | udp                | <a href="#">UDP</a> protocol.                                                                                                                                               |
|              | icmp               | <a href="#">ICMP</a> protocol.                                                                                                                                              |
|              | tcpudp             | <a href="#">TCP</a> and <a href="#">UDP</a> protocols.                                                                                                                      |
|              | gre                | <a href="#">GRE</a> protocol.                                                                                                                                               |
|              | ipip               | <a href="#">IP in IP</a> protocol.                                                                                                                                          |
| interface    | <i>Interface</i>   | Input interface name (full name or alias).                                                                                                                                  |
| comment      | <i>String</i>      | User's notes with symbol ! before them.                                                                                                                                     |
| address      | <i>IP address</i>  | Along with mask <i>mask</i> sets the range of destination IP addresses that are to be translated.                                                                           |
| mask         | <i>IP-mask</i>     | Translation range mask. There are two ways to enter the mask: the canonical form (for example, 255.255.255.0) and the form of prefix bit length (for example, /24).         |
| port         | <i>Integer</i>     | TCP/UDP port number for which a translation request comes. If not specified, all incoming requests will be translated.                                                      |
| end-port     | <i>Integer</i>     | The end of the range of ports.                                                                                                                                              |
| to-address   | <i>IP address</i>  | The destination address after translation.                                                                                                                                  |
| to-host      | <i>MAC address</i> | The destination MAC address after translation. Only MAC address from known hosts are accepted. If the known host is deleted, then the associated rules will be deleted too. |
| to-port      | <i>Integer</i>     | TCP/UDP port number after translation. If not specified, the destination port remains the same.                                                                             |
| to-interface | <i>Interface</i>   | Interface name after translation.                                                                                                                                           |

**Example**

Let there be a router between the “local” network 172.16.1.0/24 ([security level](#) private) and “global” network 10.0.0.0/16 ([security level](#) public). It is required that all requests coming to the “global” interface of this router on port 80 to be broadcast to the “local” server with the address 172.16.1.33. The sequence of commands to implement the required schema might look like this:

```
(config)> interface Home ip address 192.168.1.1/24
Network::Interface::Ip: "Bridge0": IP address is 192.168.1.1/24.
```

```
(config)> ip static tcp ISP 80 172.16.1.33 80
Network::StaticNat: Static NAT rule has been added.
```

```
(config)> ip static tcp ISP 21 00:0e:c6:a1:22:11 !test
Network::StaticNat: Static NAT rule is already there.
```

```
(config)> ip static disable
Network::StaticNat: Static NAT disable unchanged.
```

```
(config)> no ip static disable
Network::StaticNat: Static NAT rule enabled.
```

```
(config)> no ip static
Network::StaticNat: Static NAT rules have been removed.
```

### History

| Version | Description                                       |
|---------|---------------------------------------------------|
| 2.00    | The <b>ip static</b> command has been introduced. |
| 2.06    | The to-host argument has been added.              |

## 3.78 ip static rule

**Description** Disable IP address translation rule or set rule operation time by schedule.  
Command with **no** prefix enables the rule or removes the rule schedule.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** Yes

**Interface type** IP

**Synopsis**

```
(config)> ip static rule <index> (disable | schedule <schedule>)
(config)> no ip static rule <index> (disable | schedule)
```

### Arguments

| Argument | Value           | Description                                                                       |
|----------|-----------------|-----------------------------------------------------------------------------------|
| index    | <i>Integer</i>  | The translation rule number.                                                      |
| disable  | <i>Keyword</i>  | Disable the translation rule.                                                     |
| schedule | <i>Schedule</i> | The name of the schedule that was created with <b>schedule</b> group of commands. |

### Example

```
(config)> ip static rule 0 schedule test_schedule
Network::StaticNat: Static NAT rule schedule applied.
```

```
(config)> ip static rule 0 disable
Network::StaticNat: Static NAT rule disabled.
```

```
(config)> no ip static rule 0 disable
Network::StaticNat: Static NAT rule enabled.
```

```
(config)> no ip static rule 0 schedule
Network::StaticNat: Static NAT rule schedule removed.
```



| History | Version | Description                                            |
|---------|---------|--------------------------------------------------------|
|         | 2.08    | The <b>ip static rule</b> command has been introduced. |

## 3.79 ip telnet

**Description** Access to a group of commands to manage Telnet server.

**Prefix no** No

**Change settings** No

**Multiple input** No

**Interface type** IP

**Group entry** (config-telnet)

**Synopsis** (config)> **ip telnet**

**Example** (config)> **ip telnet**  
(config-telnet)>

| History | Version | Description                                       |
|---------|---------|---------------------------------------------------|
|         | 2.08    | The <b>ip telnet</b> command has been introduced. |

### 3.79.1 ip telnet lockout-policy

**Description** Set Telnet brute force detection parameters for public interfaces. By default, feature is enabled. If you use 0 as an argument, all brute force detection parameters will be reset to default.

Command with **no** prefix disables brute force detection.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Interface type** IP

**Synopsis** (config-telnet)> **lockout-policy** *<threshold>* [*<duration>*] [*<observation-window>* ]]  
(cconfig-telnet)> **no lockout-policy**

**Arguments**

| Argument           | Value          | Description                                                                                                                             |
|--------------------|----------------|-----------------------------------------------------------------------------------------------------------------------------------------|
| threshold          | <i>Integer</i> | The number of failed attempts to log in. By default, 5 value is used. Can take values in the range from 4 to 20.                        |
| duration           | <i>Integer</i> | An authorization ban duration for the specified IP in minutes. By default, 15 value is used. Can take values in the range from 1 to 60. |
| observation-window | <i>Integer</i> | Duration of suspicious activity observation in minutes. By default, 3 value is used. Can take values in the range from 1 to 10.         |

**Example**

```
(config-telnet)> lockout-policy 10 30 2
Telnet::Server: Bruteforce detection is reconfigured.
```

```
(config-telnet)> no lockout-policy
Telnet::Server: Bruteforce detection is disabled.
```

```
(config-telnet)> lockout-policy 0
Telnet::Server: Bruteforce detection is enabled.
```

**History**

| Version | Description                                                      |
|---------|------------------------------------------------------------------|
| 2.08    | The <b>ip telnet lockout-policy</b> command has been introduced. |

## 3.79.2 ip telnet port

**Description**

Specify port number for telnet connection. By default, 23 port number is used.

Command with **no** prefix resets port number to default.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

No

**Interface type**

IP

**Synopsis**

```
(config-telnet)> port <number>
```

```
(config-telnet)> no port
```

**Arguments**

| Argument | Value          | Description                                                            |
|----------|----------------|------------------------------------------------------------------------|
| number   | <i>Integer</i> | Port number. Can take values in the range from 1 to 65535 inclusively. |

**Example** (config-telnet)> **port 2525**  
Telnet::Server: Port unchanged.

(config-telnet)> **no port**  
Telnet::Server: Port unchanged.

**History**

| Version | Description                                            |
|---------|--------------------------------------------------------|
| 2.08    | The <b>ip telnet port</b> command has been introduced. |

### 3.79.3 ip telnet security-level

**Description** Set Telnet security level. By default, private value is set.

**Prefix no** No

**Change settings** Yes

**Multiple input** No

**Interface type** IP

**Synopsis** (config-telnet)> **security-level (public | private | protected)**

**Arguments**

| Argument  | Value          | Description                                                                          |
|-----------|----------------|--------------------------------------------------------------------------------------|
| public    | <i>Keyword</i> | Access to the Telnet server is allowed for public, private and protected interfaces. |
| private   | <i>Keyword</i> | Access to the Telnet server is allowed for private interfaces.                       |
| protected | <i>Keyword</i> | Access to the Telnet server is allowed for private and protected interfaces.         |

**Example** (config-telnet)> **security-level protected**  
Telnet::Manager: Security level changed to protected.

**History**

| Version | Description                                                      |
|---------|------------------------------------------------------------------|
| 2.08    | The <b>ip telnet security-level</b> command has been introduced. |

### 3.79.4 ip telnet session max-count

**Description** Set the maximal number of simultaneous sessions for telnet connection. By default, 4 value is used.

Command with **no** prefix resets count to default.

**Prefix no** Yes

**Change settings** Yes**Multiple input** No**Interface type** IP

**Synopsis**

```
(config-telnet)> session max-count <count>
```

```
(config-telnet)> no session max-count
```

**Arguments**

| Argument | Value          | Description                                                                                        |
|----------|----------------|----------------------------------------------------------------------------------------------------|
| count    | <i>Integer</i> | The maximal number of simultaneous sessions. Can take values in the range from 1 to 4 inclusively. |

**Example**

```
(config-telnet)> session max-count 4
Telnet::Server: The maximum session count set to 4.
```

```
(config-telnet)> no session max-count
Telnet::Server: The maximum session count reset to 4.
```

**History**

| Version | Description                                                         |
|---------|---------------------------------------------------------------------|
| 2.08    | The <b>ip telnet session max-count</b> command has been introduced. |

## 3.79.5 ip telnet session timeout

**Description** Set the lifetime of inactive session for telnet connection. By default, 300 value is used which means that the function of activity tracking within a session is disabled.

Command with **no** prefix resets timeout to default.

**Prefix no** Yes**Change settings** Yes**Multiple input** No**Interface type** IP

**Synopsis**

```
(config-telnet)> session timeout <timeout>
```

```
(config-telnet)> no session timeout
```

**Arguments**

| Argument | Value          | Description                                                                                              |
|----------|----------------|----------------------------------------------------------------------------------------------------------|
| timeout  | <i>Integer</i> | The lifetime of inactive session. Can take values in the range from 5 to $2^{32}-1$ seconds inclusively. |

**Example**

```
(config-telnet)> session timeout 600
Telnet::Server: A session timeout value set to 600 seconds.
```

```
(config-telnet)> no session timeout
Telnet::Server: A session timeout reset.
```

**History**

| Version | Description                                                       |
|---------|-------------------------------------------------------------------|
| 2.08    | The <b>ip telnet session timeout</b> command has been introduced. |

## 3.80 ip traffic-shape host

**Description**

Set the limit of data rate on a specified known host in both directions. By default speed is not limited.

Command with **no** prefix removes the setting for specified host. If you use no arguments, the entire list of rate limits for all hosts will be removed.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

Yes

**Interface type**

IP

**Synopsis**

```
(config)> ip traffic-shape host <mac> rate <rate> [ asymmetric
<upstream-rate> ] [ schedule <schedule> ]
```

```
(config)> no ip traffic-shape host [ <mac> ]
```

**Arguments**

| Argument      | Value              | Description                                                                              |
|---------------|--------------------|------------------------------------------------------------------------------------------|
| mac           | <i>MAC address</i> | MAC address of the known host.                                                           |
| rate          | <i>Integer</i>     | Value of data download rate in Kbps. Limit could be in the range from 64 Kbps to 1 Gbps. |
| upstream-rate | <i>Integer</i>     | Data upload rate in Kbps. Value can be in the range from 64 Kbps to 1 Gbps.              |
| schedule      | <i>Schedule</i>    | The name of the schedule that was created with <b>schedule</b> group of commands.        |

**Example**

```
(config)> ip traffic-shape host a8:1e:82:81:f1:21 rate 80
TrafficControl::Manager: "a8:1e:82:81:f1:21" host rate limited ►
to DL 80 / UL 80 Kbits/sec.
```

```
(config)> ip traffic-shape host a8:1e:82:81:f1:21 rate 80 ►
asymmetric 64
TrafficControl::Manager: "a8:1e:82:81:f1:21" host rate limited ►
to DL 80 / UL 64 Kbits/sec..
```

```
(config)> ip traffic-shape host a8:1e:82:81:f1:21 rate 80 ►
asymmetric 64 schedule Update
TrafficControl::Manager: "a8:1e:82:81:f1:21" host rate limited ►
to DL 80 / UL 64 Kbits/sec (controlled by schedule Update).
```

```
(config)> no ip traffic-shape host a8:1e:82:81:f1:21
TrafficControl::Manager: Rate limit removed for host ►
"a8:1e:82:81:f1:21".
```

```
(config)> no ip traffic-shape host a8:1e:82:81:f1:21
TrafficControl::Manager: Rate limit removed for host ►
"a8:1e:82:81:f1:21".
```

```
(config)> no ip traffic-shape host
TrafficControl::Manager: Rate limits for all hosts removed.
```

**History**

| Version | Description                                                   |
|---------|---------------------------------------------------------------|
| 2.05    | The <b>ip traffic-shape host</b> command has been introduced. |
| 2.08    | The <b>schedule</b> argument was added.                       |
| 3.04    | The <b>upstream-rate</b> argument was added.                  |

## 3.81 ip traffic-shape unknown-host

**Description**

Set the data rate limitation for unregistered devices in both directions. By default, speed is unlimited.

Command with **no** prefix removes the setting.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

No

**Interface type**

IP

**Synopsis**

```
(config)> ip traffic-shape unknown-host rate <rate> [ asymmetric
<upstream-rate> ]
```

```
(config)> no ip traffic-shape unknown-host rate
```

**Arguments**

| Argument      | Value          | Description                                                                         |
|---------------|----------------|-------------------------------------------------------------------------------------|
| rate          | <i>Integer</i> | The data download rate in Kbps. Value could be in the range from 64 Kbps to 1 Gbps. |
| upstream-rate | <i>Integer</i> | Data upload rate in Kbps. Value can be in the range from 64 Kbps to 1 Gbps.         |

**Example**

```
(config)> ip traffic-shape unknown-host rate 80
TrafficControl::Manager: Rate limit for unknown hosts set to 80 ►
Kbits/sec.
```

```
(config)> ip traffic-shape unknown-host rate 80 asymmetric 64
TrafficControl::Manager: Rate limit for unknown hosts set to ►
80/64 Kbits/sec.
```

```
(config)> no ip traffic-shape unknown-host rate
TrafficControl::Manager: Rate limit for unknown hosts removed.
```

**History**

| Version | Description                                                           |
|---------|-----------------------------------------------------------------------|
| 2.09    | The <b>ip traffic-shape unknown-host</b> command has been introduced. |
| 3.04    | The <b>upstream-rate</b> argument was added.                          |

## 3.82 ipv6 local-prefix

**Description**

Configure a local (ULA) prefix. Argument can be a literal prefix or **default**, which generates a persistent unique prefix automatically.

Command with **no** prefix disables the setting.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

No

**Synopsis**

```
(config)> ipv6 local-prefix (default | <prefix> )
```

```
(config)> no ipv6 local-prefix [default | <prefix> ]
```

**Arguments**

| Argument | Value          | Description                                                                                            |
|----------|----------------|--------------------------------------------------------------------------------------------------------|
| default  | <i>Keyword</i> | Generate persistent unique prefix.                                                                     |
| prefix   | <i>Prefix</i>  | Local ULA prefix. Must be a valid prefix in the block fd00::/8 with a prefix length no longer than 48. |

**Example**

```
(config)> ipv6 local-prefix default
Ip6::Prefixes: Default ULA prefix enabled.
```

```
(config)> ipv6 local-prefix fd01:db8:43::/48
Ip6::Prefixes: Added static prefix: fd01:db8:43::/48.
```

```
(config)> no ipv6 local-prefix default
Ip6::Prefixes: Default ULA prefix disabled.
```

```
(config)> no ipv6 local-prefix fd01:db8:43::/48
Ip6::Prefixes: Deleted static prefix: fd01:db8:43::/48.
```

**History**

| Version | Description                                               |
|---------|-----------------------------------------------------------|
| 2.00    | The <b>ipv6 local-prefix</b> command has been introduced. |

## 3.83 ipv6 name-server

**Description**

Configure DNS server IPv6-addresses. Addresses saved in this fashion are called static as opposite to dynamic — as registered by [PPP](#) or [DHCP](#) services.

**ipv6 name-server** command can be entered multiple times if several DNS server addresses need to be setup.

Command with **no** prefix removes the specified DNS server address from the static and the active lists if the command is furnished with arguments, or clears the list of static addresses if the command has no arguments.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

Yes

**Synopsis**

```
(config)> ipv6 name-server <address> [ <domain> [ on <interface> ] ]
```

```
(config)> no ipv6 name-server [ <address> [ <domain> [ on <interface> ] ] ]
```

**Arguments**

| Argument  | Value               | Description                                                                                                                                                                                                                                                          |
|-----------|---------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| address   | <i>IPv6-address</i> | Name server address.                                                                                                                                                                                                                                                 |
| domain    | <i>String</i>       | Domain for which the server will be used. In resolving names the DNS-proxy first selects the address of the server with name best matching the requested domain. If the domain is not specified, the server will be used for all requests. Use "" as default domain. |
| interface | <i>Interface</i>    | Interface name to configure.                                                                                                                                                                                                                                         |



**Example**

```
(config)> ipv6 name-server 2001:4860:4860::8888
Dns::Manager: Name server 2001:4860:4860::8888 added, domain ►
(default).
```

```
(config)> ipv6 name-server 123::456 "" on ISP
Dns::InterfaceSpecific: "GigabitEthernet1": name server 123::456 ►
added, domain (default).
```

```
(config)> ipv6 name-server 2001:4860:4860::8888 google.com
Dns::Manager: Name server 2001:4860:4860::8888 added, domain ►
google.com.
```

```
(config)> no ipv6 name-server 2001:4860:4860::8888
Dns::Manager: Name server 2001:4860:4860::8888, domain (default) ►
deleted.
```

```
(config)> no ipv6 name-server 123::456 "" on ISP
Dns::InterfaceSpecific: Name server 123::456 deleted, domain ►
(default).
```

```
(config)> no ipv6 name-server 2001:4860:4860::8888 google.com
Dns::Manager: Name server 2001:4860:4860::8888, domain google.com ►
deleted.
```

```
(config)> no ipv6 name-server
Dns::Manager: Static name server list cleared.
```

**History**

| Version | Description                                              |
|---------|----------------------------------------------------------|
| 2.00    | The <b>ipv6 name-server</b> command has been introduced. |
| 4.00    | The interface argument was added.                        |

## 3.84 ipv6 pass

**Description**

Enable Pass Through mode on the router for IPv6-packets. By default, the feature is disabled.

Command with **no** prefix disables the function.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

No

**Synopsis**

```
(config)> ipv6 pass through <wan-iface> <lan-iface>
```

```
(config)> no ipv6 pass
```

**Arguments**

| Argument  | Value            | Description                          |
|-----------|------------------|--------------------------------------|
| wan-iface | <i>Interface</i> | Full WAN-interface name or an alias. |

| Argument  | Value            | Description                          |
|-----------|------------------|--------------------------------------|
| lan-iface | <i>Interface</i> | Full LAN-interface name or an alias. |

**Example**

```
(config)> ipv6 pass through ISP Home
Ip6::Pass: Configured pass from "GigabitEthernet1" to "Bridge0".
```

```
(config)> no ipv6 pass
Ip6::Pass: Disabled.
```

**History**

| Version | Description                                       |
|---------|---------------------------------------------------|
| 2.06    | The <b>ipv6 pass</b> command has been introduced. |

## 3.85 ipv6 route

**Description**

Add a static route to the routing table to describe a rule of IPv6-packets transmission through a particular gateway or network interface.

As the destination network keyword `default` can be specified. In this case, a default route will be created.

Command with **no** prefix removes the route with the specified parameters.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

Yes

**Synopsis**

```
(config)> ipv6 route ( <prefix> | default ) ( <interface> [ <gateway> ] | <gateway> )
```

```
(config)> no ipv6 route ( <prefix> | default ) ( <interface> [ <gateway> ] | <gateway> )
```

**Arguments**

| Argument  | Value             | Description                                               |
|-----------|-------------------|-----------------------------------------------------------|
| prefix    | <i>Prefix</i>     | IPv6 prefix.                                              |
| default   | <i>Keyword</i>    | Default prefix.                                           |
| interface | <i>Interface</i>  | Full interface name or an alias.                          |
| gateway   | <i>IP address</i> | IP address of the router in a directly connected network. |

**Example**

```
(config)> ipv6 route 2002:c100:aeb5::/48 ISP
route added
```

```
(config)> no ipv6 route 2002:c100:aeb5::/48 ISP
route erased
```

```
(config)> ipv6 route 2002:c100:aeb5:100::/56 2002:c100:aeb5::33
route added
```

```
(config)> no ipv6 route 2002:c100:aeb5:100::/56 2002:c100:aeb5::33
route erased
```

## History

| Version | Description                                        |
|---------|----------------------------------------------------|
| 2.00    | The <b>ipv6 route</b> command has been introduced. |
| 2.11    | gateway argument has been added.                   |

# 3.86 ipv6 static

**Description** Define the rule to allow incoming connection to a specified port of a registered home network device.

Command with **no** prefix removes the rule.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

## Synopsis

```
(config)> ipv6 static <protocol> (<interface> <mac> | <mac>) [<port> [
through <end-port> ]]
```

```
(config)> no ipv6 static [<protocol> (<interface> <mac> | <mac>) [<port> [
through <end-port> ]]]
```

## Arguments

| Argument  | Value              | Description                                           |
|-----------|--------------------|-------------------------------------------------------|
| protocol  | tcp                | <a href="#">TCP</a> protocol.                         |
|           | udp                | <a href="#">UDP</a> protocol.                         |
|           | tcpudp             | <a href="#">TCP</a> and <a href="#">UDP</a> protocol. |
|           | icmp6              | <a href="#">ICMPv6</a> protocol.                      |
| interface | <i>Interface</i>   | Input interface name (full name or an alias).         |
| mac       | <i>MAC address</i> | MAC address of host.                                  |
| port      | <i>Integer</i>     | TCP/UDP port number for which incoming request comes. |
| end-port  | <i>Integer</i>     | The end of the range of ports.                        |

## Example

```
(config)> ipv6 static tcp ISP 04:d1:c3:24:bc:19 81
Ip6::Firewall: Static rule added.
```

```
(config)> ipv6 static tcp 04:d1:c3:24:bc:19 8080
Ip6::Firewall: Static rule added.
```

```
(config)> ipv6 static tcp ISP 04:d1:c3:24:bc:19 8080 through 8081
Ip6::Firewall: Static rule added.
```

```
(config)> ipv6 static icmpv6 ISP 04:d1:c3:24:bc:19
Ip6::Firewall: Static rule added.
```

```
(config)> no ipv6 static icmpv6 ISP 04:d1:c3:24:bc:19
Ip6::Firewall: Static rule removed.
```

```
(config)> no ipv6 static
Ip6::Firewall: Static rules cleared.
```

### History

| Version | Description                                         |
|---------|-----------------------------------------------------|
| 2.12    | The <b>ipv6 static</b> command has been introduced. |
| 4.00    | The icmpv6 argument was added.                      |

## 3.87 ipv6 subnet

**Description** Access to a group of commands to configure a LAN IPv6 segment. If the segment is not found, the command tries to create it.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** Yes

**Group entry** (config-subnet)

**Synopsis**

```
(config)>  ipv6 subnet <name>
(config)> no ipv6 subnet [ <name> ]
```

### Arguments

| Argument | Value         | Description              |
|----------|---------------|--------------------------|
| name     | <i>String</i> | Subnet name or an alias. |

### Example

```
(config)> ipv6 subnet Default
(config-subnet)>
```

### History

| Version | Description                                         |
|---------|-----------------------------------------------------|
| 2.00    | The <b>ipv6 subnet</b> command has been introduced. |

### 3.87.1 ipv6 subnet bind

**Description** Bind the subnet to an interface.

Command with **no** prefix cancels binding.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Synopsis**

```
(config-subnet)> bind <bind>
(config-subnet)> no bind
```

**Arguments**

| Argument | Value            | Description                      |
|----------|------------------|----------------------------------|
| bind     | <i>Interface</i> | Full interface name or an alias. |

**Example**

```
(config-subnet)> bind WifiMaster0/AccessPoint1
Ip6::Subnets: Interface "WifiMaster0/AccessPoint1" bound to ►
subnet "Default".
```

```
(config-subnet)> no bind
Ip6::Subnets: Interface unbound from subnet "Default".
```

**History**

| Version | Description                                              |
|---------|----------------------------------------------------------|
| 2.00    | The <b>ipv6 subnet bind</b> command has been introduced. |

## 3.87.2 ipv6 subnet dns-server

**Description** Configure DNS server for subnets.

Command with **no** prefix removes the setting.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Synopsis**

```
(config-subnet)> dns-server ( <address1> [ <address2> ] | disable )
(config-subnet)> no dns-server
```

**Arguments**

| Argument | Value               | Description                           |
|----------|---------------------|---------------------------------------|
| address1 | <i>IPv6-address</i> | Address of primary name DNS server.   |
| address2 | <i>IPv6-address</i> | Address of secondary name DNS server. |
| disable  | <i>Keyword</i>      | Disable DNS server.                   |

**Example**

```
(config-subnet)> dns-server 2606:4700:4700::1111
Network::Ip6::Subnets: Set name server 2606:4700:4700::1111 for ▶
subnet "Default".
```

```
(config-subnet)> dns-server 2606:4700:4700::1111 ▶
2606:4700:4700::1001
Network::Ip6::Subnets: Set name servers 2606:4700:4700::1111 ▶
2606:4700:4700::1001 for subnet "Default".
```

```
(config-subnet)> dns-server disable
Network::Ip6::Subnets: Disable name servers for subnet "Default".
```

```
(config-subnet)> no dns-server
Network::Ip6::Subnets: Cleared name servers for subnet "Default".
```

**History**

| Version | Description                                                    |
|---------|----------------------------------------------------------------|
| 4.03    | The <b>ipv6 subnet dns-server</b> command has been introduced. |

## 3.87.3 ipv6 subnet mode

**Description**

Select the address configuration mode for hosts in the subnet. Exclusive options are **dhcp** and **slaac**. The former will enable a local DHCPv6 server for the purposes of address assignment, and the latter will enable SLAAC (Stateless Address Autoconfiguration).

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

No

**Synopsis**

```
(config-subnet)> mode <mode>
```

```
(config-subnet)> no mode
```

**Arguments**

| Argument | Value | Description                                        |
|----------|-------|----------------------------------------------------|
| mode     | slaac | Enable SLAAC (stateless autoconfiguration).        |
|          | dhcp  | Enable DHCPv6 server (stateful autoconfiguration). |

**Example**

```
(config-subnet)> mode dhcp
Ip6::Subnets: Subnet "Default" enabled as DHCP.
```

```
(config-subnet)> no mode
Ip6::Subnets: Subnet "Default" disabled.
```

| History | Version | Description                                              |
|---------|---------|----------------------------------------------------------|
|         | 2.00    | The <b>ipv6 subnet mode</b> command has been introduced. |

### 3.87.4 ipv6 subnet number

**Description** Assign the subnet ID, which will determine the advertised prefix for the segment. Must be unique across subnets.

**Prefix no** No

**Change settings** Yes

**Multiple input** No

**Synopsis** `(config-subnet)> number <number>`

| Arguments | Argument | Value          | Description       |
|-----------|----------|----------------|-------------------|
|           | number   | <i>Integer</i> | Unique subnet ID. |

**Example** `(config-subnet)> number 2`  
 Ip6::Subnets: Number 2 assigned to subnet "Default".

| History | Version | Description                                                |
|---------|---------|------------------------------------------------------------|
|         | 2.00    | The <b>ipv6 subnet number</b> command has been introduced. |

### 3.87.5 ipv6 subnet prefix delegate

**Description** Set delegated prefix length.  
 Command with **no** prefix removes the setting.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Synopsis** `(config-subnet)> prefix delegate <delegate>`  
`(config-subnet)> no prefix delegate`

| Arguments | Argument | Value          | Description                                |
|-----------|----------|----------------|--------------------------------------------|
|           | delegate | <i>Integer</i> | The value must be less than prefix length. |

**Example**

```
(config-subnet)> prefix delegate 63
Network::Ip6::Subnets: Delegate length is /63 assigned to subnet ►
"Default".
```

```
(config-subnet)> no prefix delegate
Network::Ip6::Subnets: Prefix delegation disabled for subnet ►
"Default".
```

**History**

| Version | Description                                                         |
|---------|---------------------------------------------------------------------|
| 4.00    | The <b>ipv6 subnet prefix delegate</b> command has been introduced. |

## 3.87.6 ipv6 subnet prefix length

**Description**

Set subnet prefix length. By default, /64 prefix length is set.

Command with **no** prefix resets to default.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

No

**Synopsis**

```
(config-subnet)> prefix length <length>
```

```
(config-subnet)> no prefix length
```

**Arguments**

| Argument | Value          | Description                                                 |
|----------|----------------|-------------------------------------------------------------|
| length   | <i>Integer</i> | Prefix length can take values in the range from /32 to /64. |

**Example**

```
(config-subnet)> prefix length 62
Network::Ip6::Subnets: Length is /62 assigned to subnet "Default".
```

```
(config-subnet)> no prefix length
Network::Ip6::Subnets: Length reset to default for subnet ►
"Default".
```

**History**

| Version | Description                                                       |
|---------|-------------------------------------------------------------------|
| 4.00    | The <b>ipv6 subnet prefix length</b> command has been introduced. |



## 3.88 isolate-private

**Description** Prohibit data transfer between any interfaces with [security level](#) private. Enabled by default.

Command with **no** prefix cancels the command, allowing data transfer between private interfaces.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Synopsis**

```
(config)> isolate-private
(config)> no isolate-private
```

**Example**

```
(config)> isolate-private
Netfilter::Manager: Private networks isolated.

(config)> no isolate-private
Netfilter::Manager: Private networks not isolated.
```

**History**

| Version | Description                                             |
|---------|---------------------------------------------------------|
| 2.00    | The <b>isolate-private</b> command has been introduced. |

## 3.89 kabinet

**Description** Access to a group of commands to configure KABiNET authenticator parameters.

Command with **no** prefix resets all parameters to default.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Group entry** (kabinet)

**Synopsis**

```
(config)> kabinet
(config)> no kabinet
```

**Example**

```
(config)> kabinet
(kabinet)>
```

```
(config)> no kabinet
Kabinet::Authenticator: A configuration reset.
```

**History**

| Version | Description                                     |
|---------|-------------------------------------------------|
| 2.02    | The <b>kabinet</b> command has been introduced. |

## 3.89.1 kabinet access-level

**Description** Set an access level for KAFINET authenticator. By default, access level internet is used.

Command with **no** prefix resets level to default.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Synopsis**

```
(kabinet)> access-level <level>
(kabinet)> no access-level
```

**Arguments**

| Argument | Value    | Description         |
|----------|----------|---------------------|
| level    | lan      | Access level value. |
|          | internet |                     |

**Example**

```
(kabinet)> access-level lan
Kabinet::Authenticator: An access level set to "lan".
```

```
(kabinet)> access-level internet
Kabinet::Authenticator: An access level set to "internet".
```

```
(kabinet)> no access-level
Kabinet::Authenticator: An access level reset to "internet".
```

**History**

| Version | Description                                                  |
|---------|--------------------------------------------------------------|
| 2.02    | The <b>kabinet access-level</b> command has been introduced. |

## 3.89.2 kabinet interface

**Description** Bind KAFINET authenticator to the specified interface.

Command with **no** prefix unbinds interface.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Synopsis**

```
(kabinet)> interface <interface>

(kabinet)> no interface
```

| Argument  | Value            | Description                                                                                                                |
|-----------|------------------|----------------------------------------------------------------------------------------------------------------------------|
| interface | <i>Interface</i> | Full interface name or an alias. You can see the list of available interfaces with help of <b>interface</b> [Tab] command. |

**Example**

```
(kabinet)> interface [Tab]

Usage template:
    interface {interface}

Choose:
    GigabitEthernet1
    ISP
    WifiMaster0/AccessPoint2
    WifiMaster1/AccessPoint1
    WifiMaster0/AccessPoint3
    WifiMaster0/AccessPoint0
    AccessPoint
```

```
(kabinet)> interface ISP
Kabinet::Authenticator: Bound to GigabitEthernet1.
```

```
(kabinet)> no interface
Kabinet::Authenticator: Interface binding cleared.
```

| Version | Description                                               |
|---------|-----------------------------------------------------------|
| 2.02    | The <b>kabinet interface</b> command has been introduced. |

### 3.89.3 kabinet password

**Description** Set a password for KABINET authenticator. By default, password is not set. Command with **no** prefix clears the password.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Synopsis**

```
(kabinet)> password <password>
```

```
(kabinet)> no password
```

**Arguments**

| Argument | Value         | Description                      |
|----------|---------------|----------------------------------|
| password | <i>String</i> | The password for authentication. |

**Example**

```
(kabinet)> password 123456789
Kabinet::Authenticator: A password set.
```

```
(kabinet)> no password
Kabinet::Authenticator: A password cleared.
```

**History**

| Version | Description                                              |
|---------|----------------------------------------------------------|
| 2.02    | The <b>kabinet password</b> command has been introduced. |

## 3.89.4 kabinet port

**Description**

Set the server port for KAbINET authenticator. By default, values 8314 or 8899 are used.

Command with **no** prefix resets port to default.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

No

**Synopsis**

```
(kabinet)> port <port>
```

```
(kabinet)> no port
```

**Arguments**

| Argument | Value          | Description      |
|----------|----------------|------------------|
| port     | <i>Integer</i> | The port number. |

**Example**

```
(kabinet)> port 12345
Kabinet::Authenticator: A server port set.
```

```
(kabinet)> no port
Kabinet::Authenticator: A server port reset.
```

**History**

| Version | Description                                          |
|---------|------------------------------------------------------|
| 2.14    | The <b>kabinet port</b> command has been introduced. |

### 3.89.5 kabinet protocol-version

**Description** Set version of KABINET authenticator protocol. By default, protocol version 2 is used.

Command with **no** prefix resets protocol to default.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Synopsis**

```
(kabinet)> protocol-version <version>
(kabinet)> no protocol-version
```

**Arguments**

| Argument | Value         | Description          |
|----------|---------------|----------------------|
| version  | <i>String</i> | Version of protocol. |

**Example**

```
(kabinet)> protocol-version 1
Kabinet::Authenticator: A protocol version set to "1".
```

```
(kabinet)> no protocol-version
Kabinet::Authenticator: A protocol version reset to "2".
```

**History**

| Version | Description                                                      |
|---------|------------------------------------------------------------------|
| 2.02    | The <b>kabinet protocol-version</b> command has been introduced. |

### 3.89.6 kabinet server

**Description** Set an IP address of KABINET authentication server. By default, IP 10.0.0.1 is used.

Command with **no** prefix resets the address.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Synopsis**

```
(kabinet)> server <address>
(kabinet)> no server
```

**Arguments**

| Argument | Value             | Description                    |
|----------|-------------------|--------------------------------|
| address  | <i>IP address</i> | Authentication server address. |

**Example**

```
(kabinet)> server 77.222.111.1
Kabinet::Authenticator: A server address set.
```

```
(kabinet)> no server
Kabinet::Authenticator: A server address reset.
```

**History**

| Version | Description                                            |
|---------|--------------------------------------------------------|
| 2.02    | The <b>kabinet server</b> command has been introduced. |

## 3.90 known host

**Description** Set known host.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** Yes

**Synopsis**

```
(config)> known host <name> <mac>
```

```
(config)> no known host [ mac ]
```

**Arguments**

| Argument | Value              | Description          |
|----------|--------------------|----------------------|
| name     | <i>String</i>      | Arbitrary host name. |
| mac      | <i>MAC address</i> | MAC address.         |

**Example**

```
(config)> known host MY 00:0e:c6:a2:22:a1
Core::KnownHosts: New host "MY" has been created.
```

```
(config)> no known host 00:0e:c6:a2:22:a1
Core::KnownHosts: Host 00:0e:c6:a1:26:a8 has been removed.
```

**History**

| Version | Description                                        |
|---------|----------------------------------------------------|
| 2.00    | The <b>known host</b> command has been introduced. |

## 3.91 mws acquire

**Description** Attach new device to [MWS](#).

Command with **no** prefix stops the acquisition.

**Prefix no** Yes

**Change settings** No

**Multiple input** No

**Synopsis**

```
(config)> mws acquire <candidate> [eula-accept] [dpn-accept]
[no-update]

(config)> no mws acquire <candidate>
```

#### Arguments

| Argument    | Value          | Description                                       |
|-------------|----------------|---------------------------------------------------|
| candidate   | <i>String</i>  | Device ID — MAC address or CID.                   |
| eula-accept | <i>Keyword</i> | Send <b>eula accept</b> command.                  |
| dpn-accept  | <i>Keyword</i> | Send Device Privacy Notice accept.                |
| no-update   | <i>Keyword</i> | Acquisition without firmware update confirmation. |

#### Example

```
(config)> mws acquire ab1409a2-0f87-11e8-8f23-3d5f5921b253 ►
eula-accept
Mws::Controller: Candidate "ab1409a2-0f87-11e8-8f23-3d5f5921b253" ►
acquire started.
```

```
(config)> mws acquire 7207838e-af7d-11e6-8029-25463bd03811 ►
eula-accept dpn-accept no-update
Mws::Controller: Candidate "7207838e-af7d-11e6-8029-25463bd03811" ►
acquire started.
```

```
(config)> no mws acquire 60:31:97:3f:36:00
Mws::Controller: Candidate "60:31:97:3f:36:00" acquire stopped.
```

#### History

| Version | Description                                         |
|---------|-----------------------------------------------------|
| 2.15    | The <b>mws acquire</b> command has been introduced. |

## 3.92 mws auto-ap-shutdown

**Description** Enable automatic shutdown of the Wi-Fi System Extenders when communication with the Controller is inaccessible. By default, the setting is disabled.

Command with **no** prefix disables the feature.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Synopsis**

```
(config)> mws auto-ap-shutdown
```

```
(config)> no mws auto-ap-shutdown
```

**Example**

```
(config)> mws auto-ap-shutdown
Mws::Controller: Automatic access points shutdown enabled.
```

```
(config)> no mws auto-ap-shutdown
Mws::Controller: Automatic access points shutdown disabled.
```

**History**

| Version | Description                                                  |
|---------|--------------------------------------------------------------|
| 3.08    | The <b>mws auto-ap-shutdown</b> command has been introduced. |

## 3.93 mws backhaul shutdown

**Description**

Disable hidden wireless backhaul access points for [MWS](#) service. By default, the setting is enabled.

Command with **no** prefix enables hidden wireless backhaul access points.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

No

**Synopsis**

```
(config)> mws backhaul shutdown
```

```
(config)> no mws backhaul shutdown
```

**Example**

```
(config)> mws backhaul shutdown
Mws::Controller: Backhaul disabled.
```

```
(config)> no mws backhaul shutdown
Mws::Controller: Backhaul enabled.
```

**History**

| Version | Description                                                   |
|---------|---------------------------------------------------------------|
| 3.04    | The <b>mws backhaul shutdown</b> command has been introduced. |

## 3.94 mws log stp

**Description**

Enable STP logging for the interface. Allows you to track sent and received BPDU packets.



Command with **no** prefix disables logging for specified interface. If you use no argument, the entire list of STP logging will be removed.

**Prefix no** Yes

**Change settings** No

**Multiple input** Yes

**Synopsis**

```
(config)> mws log stp <interface>
(config)> no mws log stp [ <interface> ]
```

**Arguments**

| Argument  | Value            | Description                                                                                                                |
|-----------|------------------|----------------------------------------------------------------------------------------------------------------------------|
| interface | <i>Interface</i> | Full interface name or an alias. You can see the list of available interfaces with help of <b>interface</b> [Tab] command. |

**Example**

```
(config)> mws log stp Bridge0
Network::Interface::Rtx::WifiController: Enabled STP logging for ►
"Bridge0".
```

```
(config)> no mws log stp Bridge0
Network::Interface::Rtx::WifiController: Disabled STP logging ►
for "Bridge0".
```

```
(config)> no mws log stp
Network::Interface::Rtx::WifiController: Disabled all STP logging.
```

**History**

| Version | Description                                         |
|---------|-----------------------------------------------------|
| 3.06    | The <b>mws log stp</b> command has been introduced. |

## 3.95 mws member

**Description** Command with **no** prefix removes *MWS* member. If you use no argument, the entire list of members will be cleared.

**Prefix no** Yes

**Change settings** No

**Multiple input** No

**Synopsis**

```
(config)> no mws member [ member ]
```

**Arguments**

| Argument | Value         | Description                     |
|----------|---------------|---------------------------------|
| member   | <i>String</i> | Device ID — MAC address or CID. |

**Example**

```
(config)> mws no member 2937a388-0d00-11e7-8029-7119319f930e
Mws::MemberList: Member 2937a388-0d00-11e7-8029-7119319f930e ►
pending factory reset.
```

**History**

| Version | Description                                        |
|---------|----------------------------------------------------|
| 2.15    | The <b>mws member</b> command has been introduced. |

## 3.96 mws member debug

**Description**

Enable [MWS](#) member debug. By default, setting is disabled.

Command with **no** prefix disables the feature.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

No

**Synopsis**

```
(config)> mws member <member> debug
```

```
(config)> no mws member <member> debug
```

**Arguments**

| Argument | Value         | Description                     |
|----------|---------------|---------------------------------|
| member   | <i>String</i> | Device ID — MAC address or CID. |

**Example**

```
(config)> mws member 60:31:97:3c:11:12 debug
Mws::MemberList: Member "60:31:97:3c:11:12" ►
(7207838e-af7d-11e6-8011-25463bd03812) RCI debug enabled.
```

```
(config)> no mws member 60:31:97:3c:11:12 debug
Mws::MemberList: Member "60:31:97:3c:11:12" ►
(7207838e-af7d-11e6-8011-25463bd03812) RCI debug disabled.
```

**History**

| Version | Description                                              |
|---------|----------------------------------------------------------|
| 3.05    | The <b>mws member debug</b> command has been introduced. |

## 3.97 mws member dpn-accept

**Description**

Accept [DPN](#) for [MWS](#) member.

**Prefix no**

No

**Change settings**

No

**Multiple input** No

**Synopsis** (config)> **mws member** *<member>* **dpn-accept**

**Arguments**

| Argument | Value         | Description                     |
|----------|---------------|---------------------------------|
| member   | <i>String</i> | Device ID — MAC address or CID. |

**Example**

```
(config)> mws member 7207838e-af7d-11e6-8029-25463bd03828 ▶
dpn-accept
Mws::Controller: Candidate "ab1409a2-0f87-11e8-8f23-3d5f5921b253" ▶
acquire started.
```

**History**

| Version | Description                                                   |
|---------|---------------------------------------------------------------|
| 3.05    | The <b>mws member dpn-accept</b> command has been introduced. |

## 3.98 mws member port access

**Description** Assign the LAN port of the Extender to the specified network segment.

By default, the LAN port is assigned to Home segment (Bridge0).

Command with **no** prefix resets setting to default.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Synopsis** (config)> **mws member** *<member>* **port** *<port>* **access** *<interface>*

(config)> **mws member** *<member>* **port** *<port>* **no access** [*<interface>*]

**Arguments**

| Argument  | Value            | Description                                          |
|-----------|------------------|------------------------------------------------------|
| member    | <i>String</i>    | Device ID — MAC address or CID.                      |
| port      | <i>Integer</i>   | The LAN port number.                                 |
| interface | <i>Interface</i> | Full name of the network segment (Bridge interface). |

**Example**

```
(config)> mws member cb7038f8-c49b-11ea-8f23-e123fd1a0e3e port ▶
3 access Bridge2
Mws::Controller::Manager: "cb7038f8-c49b-11ea-8f23-e123fd1a0e3e": ▶
port "3" has been attached to "Bridge2".
```

```
(config)> mws member 11:ff:22:43:5c:bf port 1 access Bridge2
Mws::Controller::Manager: "11:ff:22:43:5c:bf": port "1" has been ►
attached to "Bridge2".
```

```
(config)> mws member 11:ff:22:43:5c:bf port 1 no access Bridge2
Mws::Controller::Manager: "11:ff:22:43:5c:bf": port "1" has been ►
attached to "Bridge0".
```

**History**

| Version | Description                                                    |
|---------|----------------------------------------------------------------|
| 4.02    | The <b>mws member port access</b> command has been introduced. |

## 3.99 mws member port disable

**Description**

Disable the LAN port of the Extender.

Command with **no** prefix enables the LAN port.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

No

**Synopsis**

```
(config)> mws member <member> port <port> disable
```

```
(config)> mws member <member> port <port> no disable
```

**Arguments**

| Argument | Value          | Description                     |
|----------|----------------|---------------------------------|
| member   | <i>String</i>  | Device ID — MAC address or CID. |
| port     | <i>Integer</i> | The LAN port number.            |

**Example**

```
(config)> mws member 21:f3:20:43:5c:bf port 3 disable
Mws::Controller::Manager: "21:f3:20:43:5c:bf": port "3" has been ►
set to "down".
```

```
(config)> mws member 21:f3:20:43:5c:bf port 3 no disable
Mws::Controller::Manager: "21:f3:20:43:5c:bf": port "3" has been ►
set to "up".
```

**History**

| Version | Description                                                     |
|---------|-----------------------------------------------------------------|
| 4.02    | The <b>mws member port disable</b> command has been introduced. |

## 3.100 mws member reboot

**Description** Reboot the *MWS* member. The process of rebooting extenders should be displayed in the *show mws member* command output.

**Prefix no** No

**Change settings** No

**Multiple input** No

**Synopsis** `(config)> mws member <member> reboot [ <interval> ]`

**Arguments**

| Argument | Value          | Description                                                                                                                                       |
|----------|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| member   | <i>String</i>  | Device ID — MAC-address or CID.                                                                                                                   |
| interval | <i>Integer</i> | Timeout for reboot in seconds. Can take values in the range from 0 to 60 inclusively). If not specified, the reboot will be executed immediately. |

**Example**

```
(config)> mws member 7207838e-af7d-11e6-8029-25463bd03828 reboot ►
10
Mws::MemberList: Member "50:ff:21:1a:b1:f2" ►
(7207838e-af7d-11e6-8029-25463bd03828) pending reboot.
```

**History**

| Version | Description                                               |
|---------|-----------------------------------------------------------|
| 3.08    | The <b>mws member reboot</b> command has been introduced. |

## 3.101 mws member update channel

**Description** Configure the update channel for the Extenders. By default, value *stable* is used.

Command with **no** prefix resets setting to default.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Synopsis** `(config)> mws member <member> update channel <channel>`

`(config)> no mws member <member> update channel`

**Arguments**

| Argument | Value         | Description                                                                                                            |
|----------|---------------|------------------------------------------------------------------------------------------------------------------------|
| member   | <i>String</i> | Device ID — MAC address or CID.                                                                                        |
| channel  | <i>String</i> | Update channel name. The list of channels is available in the command <a href="#">components auto-update channel</a> . |

**Example**

```
(config)> mws member 8a33ff16-2c3c-11ef-9111-7bd989541127 update ►
channel preview
Mws::Controller::MemberList: "50:11:20:22:33:1b" update channel ►
is "preview".
```

```
(config)> no mws member 8a33ff16-2c3c-11ef-9396-7bd989541127 ►
update channel
Mws::Controller::MemberList: "50:ff:20:c5:97:1b" reset an update ►
channel to default.
```

**History**

| Version | Description                                                       |
|---------|-------------------------------------------------------------------|
| 4.02    | The <b>mws member update channel</b> command has been introduced. |

## 3.102 mws member update check

**Description** Check for an update for the [MWS](#) member.

**Prefix no** No

**Change settings** No

**Multiple input** No

**Synopsis** `(config)> mws member <member> update check`

**Arguments**

| Argument | Value         | Description                     |
|----------|---------------|---------------------------------|
| member   | <i>String</i> | Device ID — MAC address or CID. |

**Example**

```
(config)> mws member 21:ff:22:32:18:af update check
Mws::Controller::Updater: "21:ff:22:32:18:af": checking for an ►
update.
```

**History**

| Version | Description                                                     |
|---------|-----------------------------------------------------------------|
| 4.00    | The <b>mws member update check</b> command has been introduced. |

## 3.103 mws member update start

**Description** Start the *MWS* member update.

**Prefix no** No

**Change settings** No

**Multiple input** No

**Synopsis** `(config)> mws member <member> update start`

**Arguments**

| Argument | Value         | Description                     |
|----------|---------------|---------------------------------|
| member   | <i>String</i> | Device ID — MAC address or CID. |

**Example**

```
(config)> mws member 21:ff:22:32:18:af update start
Mws::Controller::Updater: "21:ff:22:32:18:af": pending update, ►
"(auto)" sandbox.
```

**History**

| Version | Description                                                     |
|---------|-----------------------------------------------------------------|
| 4.00    | The <b>mws member update start</b> command has been introduced. |

## 3.104 mws member update stop

**Description** Stop the *MWS* member update.

**Prefix no** No

**Change settings** No

**Multiple input** No

**Synopsis** `(config)> mws member <member> update stop`

**Arguments**

| Argument | Value         | Description                     |
|----------|---------------|---------------------------------|
| member   | <i>String</i> | Device ID — MAC address or CID. |

**Example**

```
(config)> mws member 21:ff:22:32:18:af update stop
Mws::Controller::Updater: "21:ff:22:32:18:af": update stopped.
```

**History**

| Version | Description                                                    |
|---------|----------------------------------------------------------------|
| 4.00    | The <b>mws member update stop</b> command has been introduced. |

## 3.105 mws reboot

**Description** Reboot the whole *MWS*.

**Prefix no** No

**Change settings** No

**Multiple input** No

**Synopsis** (config)> **mws reboot**

**Example** (config)> **mws reboot**  
Mws::Controller: Pending reboot Modular Wi-Fi System in 10 ► seconds.

**History**

| Version | Description                                        |
|---------|----------------------------------------------------|
| 3.08    | The <b>mws reboot</b> command has been introduced. |

## 3.106 mws revisit

**Description** Re-read status of potential *MWS* member.

**Prefix no** Yes

**Change settings** No

**Multiple input** No

**Synopsis** (config)> **mws revisit** <candidate>  
(config)> **no mws revisit** <candidate>

**Arguments**

| Argument  | Value         | Description                     |
|-----------|---------------|---------------------------------|
| candidate | <i>String</i> | Device ID — MAC address or CID. |

**Example** (config)> **mws revisit 50:ff:20:08:71:62**  
Mws::Controller: Candidate "50:ff:20:08:71:62" revisit started.

(config)> **mws no revisit 50:ff:20:08:71:62**  
Mws::Controller: Candidate "50:ff:20:08:71:62" revisit stopped.

**History**

| Version | Description                                         |
|---------|-----------------------------------------------------|
| 2.15    | The <b>mws revisit</b> command has been introduced. |



# 3.107 mws stp encapsulation

| <b>Description</b>     | <p>Enable STP (Spanning Tree Protocol) encapsulation support for <a href="#">MWS</a>. By default, setting is disabled.</p>                                                                                                                                                                                                                                                                                                                                                                                             |         |             |      |                                                               |
|------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|-------------|------|---------------------------------------------------------------|
|                        | <p>Note:</p> <p>This option allows you to hide STP traffic between the MWS Controller and Extenders from intermediate switches by adding an additional encapsulation header.</p> <p>The command must be executed on the MWS Controller before associating any Extenders. It is recommended to connect the Extender directly to one of the MWS Controller's ports.</p> <p>Before using the command, you must remove all previously associated Extenders.</p> <p>Command with <b>no</b> prefix disables the feature.</p> |         |             |      |                                                               |
| <b>Prefix no</b>       | Yes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |         |             |      |                                                               |
| <b>Change settings</b> | Yes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |         |             |      |                                                               |
| <b>Multiple input</b>  | No                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |         |             |      |                                                               |
| <b>Synopsis</b>        | <pre>(config)&gt; mws stp encapsulation</pre> <pre>(config)&gt; no mws stp encapsulation</pre>                                                                                                                                                                                                                                                                                                                                                                                                                         |         |             |      |                                                               |
| <b>Example</b>         | <pre>(config)&gt; mws stp encapsulation</pre> <p>Mws::Controller::Manager: Enabled STP encapsulation.</p> <pre>(config)&gt; no mws stp encapsulation</pre> <p>Mws::Controller::Manager: Disabled STP encapsulation.</p>                                                                                                                                                                                                                                                                                                |         |             |      |                                                               |
| <b>History</b>         | <table border="1"> <thead> <tr> <th>Version</th><th>Description</th></tr> </thead> <tbody> <tr> <td>4.03</td><td>The <b>mws stp encapsulation</b> command has been introduced.</td></tr> </tbody> </table>                                                                                                                                                                                                                                                                                                             | Version | Description | 4.03 | The <b>mws stp encapsulation</b> command has been introduced. |
| Version                | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |         |             |      |                                                               |
| 4.03                   | The <b>mws stp encapsulation</b> command has been introduced.                                                                                                                                                                                                                                                                                                                                                                                                                                                          |         |             |      |                                                               |

# 3.108 mws stp priority

|                        |                                                                                                                                          |
|------------------------|------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Description</b>     | <p>Set the STP Bridge Priority. By default, the value 32768 is used.</p> <p>Command with <b>no</b> prefix resets setting to default.</p> |
| <b>Prefix no</b>       | Yes                                                                                                                                      |
| <b>Change settings</b> | No                                                                                                                                       |
| <b>Multiple input</b>  | Yes                                                                                                                                      |

**Synopsis**

```
(config)> mws stp priority <priority>
```

```
(config)> no mws stp priority
```

**Arguments**

| Argument | Value | Description                    |
|----------|-------|--------------------------------|
| priority | 0     | The STP Bridge Priority value. |
|          | 4096  |                                |
|          | 8192  |                                |
|          | 12288 |                                |
|          | 16384 |                                |
|          | 20480 |                                |
|          | 24576 |                                |
|          | 28672 |                                |
|          | 32768 |                                |
|          | 36864 |                                |
|          | 40960 |                                |
|          | 45056 |                                |
|          | 49152 |                                |
|          | 53248 |                                |

**Example**

```
(config)> mws stp priority 4096
```

```
Mws::Controller::Manager: Applied STP priority 4096.
```

```
(config)> no mws stp priority
```

```
Mws::Controller::Manager: STP priority reset to default (32768).
```

**History**

| Version | Description                                              |
|---------|----------------------------------------------------------|
| 4.01    | The <b>mws stp priority</b> command has been introduced. |

## 3.109 mws update start

**Description**

Start the [MWS](#) update.

If there are updates for members, then the members are updated sequentially. Then, if there is an update for the controller, then the controller update is started. If there are no updates, then nothing happens.

**Prefix no**

No

**Change settings**

No

**Multiple input**

No

**Synopsis**

```
(config)> mws update start [controller | members]
```

**Arguments**

| Argument   | Value          | Description                                                                                                                  |
|------------|----------------|------------------------------------------------------------------------------------------------------------------------------|
| controller | <i>Keyword</i> | Update the controller, don't try to update members. If members update is running, the controller will be updated after them. |
| members    | <i>Keyword</i> | Update a members, don't try to update the controller.                                                                        |

**Example**

```
(config)> mws update start
Mws::Controller::Manager: Updating MWS.
```

```
(config)> mws update start controller
Mws::Controller::Manager: Updating controller.
```

```
(config)> mws update stop
Mws::Controller::Manager: Updating members.
```

**History**

| Version | Description                                              |
|---------|----------------------------------------------------------|
| 4.00    | The <b>mws update start</b> command has been introduced. |

## 3.110 mws update stop

**Description**

Stop the [MWS](#) update.

**Prefix no**

No

**Change settings**

No

**Multiple input**

No

**Synopsis**

```
(config)> mws update stop
```

**Example**

```
(config)> mws update stop
Mws::Controller::Manager: Update stopped.
```

**History**

| Version | Description                                             |
|---------|---------------------------------------------------------|
| 4.00    | The <b>mws update stop</b> command has been introduced. |

## 3.111 mws zone

**Description**

Limit the connection area of the client device within the specified [MWS](#) members.

Command with **no** prefix removes the specified setting. If you use no arguments, the entire list of restrictions will be removed.

**Prefix no** Yes

**Change settings** No

**Multiple input** Yes

**Synopsis**

```
(config)> mws zone <mac> <cid>

(config)> no mws zone [ <mac> <cid> ]
```

#### Arguments

| Argument | Value       | Description                                                      |
|----------|-------------|------------------------------------------------------------------|
| mac      | MAC address | MAC address of client device. It must be listed as a known host. |
| cid      | CID         | Identifier of <i>MWS</i> member.                                 |

#### Example

```
(config)> mws zone 11:22:33:ec:58:e2 ►
12298f60-d886-11e7-9396-176971eeb8d6
Mws::Controller: Added zone 11:22:33:ec:58:e2 ►
12298f60-d886-11e7-9396-176971eeb8d6.
```

```
(config)> no mws zone 11:22:33:ec:58:e2 ►
12298f60-d886-11e7-9396-176971eeb8d6
Mws::Controller: Deleted zone 11:22:33:ec:58:e2 ►
12298f60-d886-11e7-9396-176971eeb8d6.
```

```
(config)> no mws zone
Mws::Controller: Cleared all zones.
```

#### History

| Version | Description                                      |
|---------|--------------------------------------------------|
| 3.06    | The <b>mws zone</b> command has been introduced. |

## 3.112 nextdns

**Description** Access to a group of commands to configure *NextDNS* profiles.

**Prefix no** No

**Change settings** No

**Multiple input** No

**Group entry** (nextdns)

**Synopsis**

```
(config)> nextdns
```

**Example**

```
(config)> nextdns
Core::Configurator: Done.
(nextdns)>
```

**History**

| Version | Description                                     |
|---------|-------------------------------------------------|
| 3.08    | The <b>netxdns</b> command has been introduced. |

## 3.112.1 nextdns assign

**Description** Assign profile of protection to the host. By default System profile is used for all hosts and local network segments.

Command with **no** prefix resets setting to default.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** Yes

**Synopsis**

```
(nextdns)> assign <host> <token> | interface <iface> <token>
(nextdns)> no assign [<host> | interface <iface>]
```

**Arguments**

| Argument | Value              | Description                      |
|----------|--------------------|----------------------------------|
| host     | <i>MAC address</i> | MAC address to assign.           |
| token    | <i>Integer</i>     | Authentication token (ID).       |
| iface    | <i>Interface</i>   | Full interface name or an alias. |

**Example**

```
(nextdns)> assign 11:24:c4:54:bc:59 1f2a36
NextDns::Client: Reassociated host "11:24:c4:54:bc:59" with ►
profile "1f2a36".
```

```
(nextdns)> assign interface Home 1f2a36
NextDns::Client: Associated interface "Home" with profile ►
"1f2a36".
```

```
(nextdns)> no assign 11:24:c4:54:bc:59
NextDns::Client: Removed profile for host "11:24:c4:54:bc:59".
```

```
(nextdns)> no assign Bridge0
NextDns::Client: Removed profile for interface "Bridge0".
```

**History**

| Version | Description                                            |
|---------|--------------------------------------------------------|
| 3.08    | The <b>nextdns assign</b> command has been introduced. |

## 3.112.2 nextdns authenticate

**Description** Specify login for *NextDNS* account.

**Prefix no** No

**Change settings** No

**Multiple input** No

**Synopsis**

```
(nextdns)> authenticate <login> <password> [ <pin> ]
```

```
(nextdns)> no authenticate
```

### Arguments

| Argument | Value         | Description                         |
|----------|---------------|-------------------------------------|
| login    | <i>String</i> | Login to <i>NextDNS</i> account.    |
| password | <i>String</i> | Password to <i>NextDNS</i> account. |
| pin      | <i>String</i> | Pin to <i>NextDNS</i> account.      |

### Example

```
(nextdns)> authenticate account@gmail.com 123456789 1234
NextDns::Client: Authenticated successfully.
```

### History

| Version | Description                                                  |
|---------|--------------------------------------------------------------|
| 3.08    | The <b>nextdns authenticate</b> command has been introduced. |

## 3.112.3 nextdns authtoken

**Description** Specify authentication token for *NextDNS* account.

Command with **no** prefix removes the token.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Synopsis**

```
(nextdns)> authtoken <authtoken>
```

```
(nextdns)> no authtoken
```

### Arguments

| Argument  | Value         | Description                                           |
|-----------|---------------|-------------------------------------------------------|
| authtoken | <i>String</i> | Authentication token (ID) for <i>NextDNS</i> account. |

**Example**

```
(nextdns)> authtoken 1f2a36
NextDns::Client: Set authentication token.
```

```
(nextdns)> no authtoken
NextDns::Client: Cleared authentication token.
```

**History**

| Version | Description                                               |
|---------|-----------------------------------------------------------|
| 3.08    | The <b>nextdns authtoken</b> command has been introduced. |

## 3.112.4 nextdns check-availability

**Description** Check availability of *NextDNS* service.

**Prefix no** No

**Change settings** No

**Multiple input** No

**Synopsis**

```
(nextdns)> check-availability
```

**Example**

```
(nextdns)> check-availability
NextDns::Client: NextDNS DNS-over-HTTPS is available.
```

**History**

| Version | Description                                                        |
|---------|--------------------------------------------------------------------|
| 3.08    | The <b>nextdns check-availability</b> command has been introduced. |

## 3.113 ndns

**Description** Access to a group of commands to manage keenetic service.

**Prefix no** No

**Change settings** No

**Multiple input** No

**Group entry** (ndns)

**Synopsis**

```
(config)> ndns
```

**Example**

```
(config)> ndns
Core::Configurator: Done.
```

**History**

| Version | Description                                  |
|---------|----------------------------------------------|
| 2.07    | The <b>ndns</b> command has been introduced. |

## 3.113.1 ndns book-name

**Description**

Reserve Public DNS device hostname allocation.

For hostname transmission to another Keenetic device `transfer-code` parameter is used.

To transfer hostname it is necessary:

1. Execute command with `transfer-code` on the transmitting side.
2. Execute the same command with the same parameters on the receiving side.

Lifetime of `transfer-code` is 1 week.

**Prefix no**

No

**Change settings**

Yes

**Multiple input**

No

**Synopsis**

```
(ndns)> book-name <name> <domain> [ <access> [ ipv6 <access6> ] |
<transfer-code> ]
```

**Arguments**

| Argument      | Value         | Description                                                                                      |
|---------------|---------------|--------------------------------------------------------------------------------------------------|
| name          | <i>String</i> | The hostname for allocation.                                                                     |
| domain        | <i>String</i> | Second-level domain.                                                                             |
| access        | auto          | Automatic access type.                                                                           |
|               | cloud         | Hostname is registered on the cloud server IP address, HTTP traffic is tunneled to the Sprinter. |
|               | direct        | Hostname is registered on the Sprinter WAN-address.                                              |
| access6       | cloud         | Enable cloud mode for IPv6 address.                                                              |
| transfer-code | <i>Hex</i>    | Code for domain transmission to another Keenetic device. The length is 32 symbols.               |

**Example**

```
(ndns)> book-name test keenetic.pro

done, layout = view, title = NDSS::ndns/bookName ►
(Public DNS Hostname Booking):
  client, geo = *, ip = 193.0.174.200, format = ►
clean, date = 2025-06-04T09:59:12.072Z, standalone = false:
```



```

        fields:
            field, name = name, title = Public Name:
            field, name = domain, title = Domain Name:
            field, name = updated, title = Updated, type ▶
= date, variant = date:
            field, name = address, title = IP Address:
            field, name = access, title = Access Mode ▶
IP4, default = unknown:
            field, name = address6, title = IPv6 Address:
            field, name = access6, title = Access Mode ▶
IPv6, default = unknown:
            field, name = transfer, title = Transfer:

        name: test
        domain: keenetic.pro
        acme: LE
        updated: 2025-06-04T09:59:12.059Z
        address: 0.0.0.0
        access: cloud
        address6: ::
        access6: cloud
        transfer: false

Ndns::Client: Booked "test.keenetic.pro".

```

```

(ndns)> book-name test keenetic.pro ▶
121d567f901a345b289c121b567c903c

        done, layout = view, title = NDSS::ndns/bookName ▶
(Public DNS Hostname Booking), sub-title =
The name booking was successful.: client, geo = *, ip = ▶
193.0.174.137, format =
clean, date = 2018-12-13T09:04:41.939Z, standalone = false:

        fields:
            field, name = name, title = Public Name:
            field, name = domain, title = Domain Name:
            field, name = updated, title = Updated, type ▶
= date, variant = date:
            field, name = address, title = IP Address:
            field, name = access, title = Access Mode ▶
IP4, default = unknown:
            field, name = address6, title = IPv6 Address:
            field, name = access6, title = Access Mode ▶
IPv6, default = unknown:
            field, name = transfer, title = Transfer:

        name: test
        domain: keenetic.pro
        acme: LE
        updated: 2018-12-13T08:47:11.014Z
        address: 0.0.0.0
        access: cloud

```

```

        access6: none
        transfer: true

Ndns::Client: Booked "test.keenetic.pro".

(ndns)> book-name test keenetic.pro cloud ipv6 cloud

        done, layout = view, title = NDSS::ndns/bookName ▶
(Public DNS Hostname Booking), sub-title = The name booking was ▶
successful.:
        client, geo = *, ip = 193.0.174.200, format = ▶
clean, date = 2019-05-23T09:12:29.145Z, standalone = false:

        fields:
            field, name = name, title = Public Name:
            field, name = domain, title = Domain Name:
            field, name = updated, title = Updated, type ▶
= date, variant = date:
            field, name = address, title = IP Address:
            field, name = access, title = Access Mode ▶
IP4, default = unknown:
            field, name = address6, title = IPv6 Address:
            field, name = access6, title = Access Mode ▶
IPv6, default = unknown:
            field, name = transfer, title = Transfer:

        name: test
        domain: keenetic.pro
        acme: LE
        updated: 2019-05-23T09:12:16.197Z
        address: 0.0.0.0
        access: cloud
        address6: ::
        access6: cloud
        transfer: false

Ndns::Client: Booked "test.keenetic.pro".

```

**History**

| Version | Description                                            |
|---------|--------------------------------------------------------|
| 2.07    | The <b>ndns book-name</b> command has been introduced. |
| 2.14    | Parameter <b>ipv6</b> was added.                       |

**3.113.2 ndns check-name**

|                        |                                                    |
|------------------------|----------------------------------------------------|
| <b>Description</b>     | Check the availability of hostname for allocation. |
| <b>Prefix no</b>       | No                                                 |
| <b>Change settings</b> | No                                                 |
| <b>Multiple input</b>  | No                                                 |

**Synopsis**

```
(ndns)> check-name <name>
```

**Arguments**

| Argument | Value         | Description                  |
|----------|---------------|------------------------------|
| name     | <i>String</i> | The hostname for allocation. |

**Example**

```
(ndns)> check-name testname

list:
  item:
    domain: keenetic.link
    name: testname
    available: yes
    acme: yes

  item:
    domain: keenetic.pro
    name: testname
    available: no
    acme: yes

Ndns::Client: Check completed.
```

**History**

| Version | Description                                             |
|---------|---------------------------------------------------------|
| 2.07    | The <b>ndns check-name</b> command has been introduced. |

## 3.113.3 ndns drop-name

**Description**

Drop Public DNS device hostname allocation.

**Prefix no**

No

**Change settings**

Yes

**Multiple input**

No

**Synopsis**

```
(ndns)> drop-name <name> <domain>
```

**Arguments**

| Argument | Value         | Description                |
|----------|---------------|----------------------------|
| name     | <i>String</i> | The hostname for dropping. |
| domain   | <i>String</i> | Second-level domain.       |

**Example**

```
(ndns)> drop-name test keenetic.pro

done, title = The name is un-booked., x-xml-debug ►
= message-basic, hl = true, code = 200, icon = tick, layout = ►
message, delay = false, x-ui-debug = UiBasic-object, rootName = ►
```

```
done:
    client, geo = *, ip = 193.0.174.200, format = ▶
clean, date = 2025-06-04T10:04:36.236Z, standalone = false:
    reason: Success
    message, debug = x-string, class = code ▶
style--block: The name is un-booked.

    detail, layout = list:
        columns:
            column, id = type, title = Type:
            column, id = peer, title = Peer:
            column, id = detail, title = Detail:
            column, id = elapsed, title = Time, ▶
variant = period, scale = 1:

Ndns::Client: Dropped "test keenetic.pro".
```

History

| Version | Description                                            |
|---------|--------------------------------------------------------|
| 2.07    | The <b>ndns drop-name</b> command has been introduced. |

3.113.4 ndns get-booked

**Description** Get actual info from the server about current booked Public DNS hostname.

**Prefix no** No

**Change settings** No

**Multiple input** No

**Synopsis** (ndns)> **get-booked**

Example

```
(ndns)> get-booked

done, layout = view, title = ▶
NDSS::ndns/updateBooking (Update Name Booking Address and ▶
Expiration):
    client, geo = *, ip = 193.0.174.200, format = ▶
clean, date = 2025-06-10T11:35:27.933Z, standalone = false:

    fields:
        field, name = name, title = Public Name:
        field, name = domain, title = Domain Name:
        field, name = updated, title = Updated, type ▶
= date, variant = date:
        field, name = address, title = IP Address:
        field, name = access, title = Access Mode ▶
(ip4), default = unknown:
        field, name = address6, title = IPv6 Address:
        field, name = access6, title = Access Mode ▶
```

```
(ipv6), default = unknown:
    field, name = transfer, title = Transfer:

    name: test
    domain: keenetic.pro
    acme: LE
    address: 0.0.0.0
    access: cloud
    address6: ::
    access6: cloud
    updated: 2025-06-10T07:19:49.113Z
    transfer: false

Ndns::Client: Got a booked name description.
```

**History**

| Version | Description                                             |
|---------|---------------------------------------------------------|
| 2.08    | The <b>ndns get-booked</b> command has been introduced. |

## 3.113.5 ndns get-update

**Description** Update Public DNS device hostname allocation on the server.

**Prefix no** No

**Change settings** No

**Multiple input** No

**Synopsis** `(ndns)> get-update [ <access> [ ipv6 <access6> ] ]`

**Arguments**

| Argument | Value  | Description                                                                                                                                                                                   |
|----------|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| access   | auto   | Automatic access type.                                                                                                                                                                        |
|          | cloud  | Hostname is registered on the cloud server IP address, HTTP traffic is tunneled to the Sprinter.                                                                                              |
|          | direct | Hostname is registered on the Sprinter WAN-address. This command allows to enable support for the <a href="#">Static NAT (NAT 1-1)</a> on the server side in the keenetic account parameters. |
| access6  | cloud  | Enable cloud mode for IPv6 address.                                                                                                                                                           |

**Example**

```
(ndns)> get-update auto

done, layout = view, title = ►
NDSS::ndns/updateBooking (Update Name Booking Address and ►
Expiration):
    client, geo = *, ip = 193.0.174.200, format = ►
```

```

clean, date = 2025-06-04T10:13:22.594Z, standalone = false:

    fields:
        field, name = name, title = Public Name:
        field, name = domain, title = Domain Name:
        field, name = updated, title = Updated, type ▶
= date, variant = date:
        field, name = address, title = IP Address:
        field, name = access, title = Access Mode ▶
(ip4), default = unknown:
        field, name = address6, title = IPv6 Address:
        field, name = access6, title = Access Mode ▶
(ipv6), default = unknown:
        field, name = transfer, title = Transfer:

    name: test
    domain: keenetic.pro
    acme: LE
    address: 0.0.0.0
    access: cloud
    access6: none
    updated: 2025-06-04T10:08:29.866Z
    transfer: false

Ndns::Client: Updated a booked name.

```

```

(ndns)> get-update cloud ipv6 cloud

    done, layout = view, title = ▶
NDSS::ndns/updateBooking (Update Name Booking Address and ▶
Expiration):
    client, geo = *, ip = 193.0.174.200, format = ▶
clean, date = 2025-06-04T10:15:08.638Z, standalone = false:

    fields:
        field, name = name, title = Public Name:
        field, name = domain, title = Domain Name:
        field, name = updated, title = Updated, type ▶
= date, variant = date:
        field, name = address, title = IP Address:
        field, name = access, title = Access Mode ▶
(ip4), default = unknown:
        field, name = address6, title = IPv6 Address:
        field, name = access6, title = Access Mode ▶
(ipv6), default = unknown:
        field, name = transfer, title = Transfer:

    name: test
    domain: keenetic.pro
    acme: LE
    address: 0.0.0.0
    access: cloud
    address6: ::
    access6: cloud

```

```
        updated: 2025-06-04T10:15:08.633Z
        transfer: false

Ndns::Client: Updated a booked name.

(ndns)> get-update direct

        done, layout = view, title = ►
NDSS::ndns/updateBooking (Update Name Booking Address and ►
Expiration):
        client, geo = *, ip = 193.0.174.200, format = ►
clean, date = 2025-06-04T10:16:04.151Z, standalone = false:

        fields:
            field, name = name, title = Public Name:
            field, name = domain, title = Domain Name:
            field, name = updated, title = Updated, type ►
= date, variant = date:
            field, name = address, title = IP Address:
            field, name = access, title = Access Mode ►
(ip4), default = unknown:
            field, name = address6, title = IPv6 Address:
            field, name = access6, title = Access Mode ►
(ipv6), default = unknown:
            field, name = transfer, title = Transfer:

        name: test
        domain: keenetic.pro
        acme: LE
        address: 193.0.174.200
        access: direct
        access6: none
        updated: 2025-06-04T10:16:04.149Z
        transfer: false

Ndns::Client: Updated a booked name.
```

History

| Version | Description                                             |
|---------|---------------------------------------------------------|
| 2.07    | The <b>ndns get-update</b> command has been introduced. |
| 2.14    | Parameter ipv6 was added.                               |

# 3.114 ntce

|                 |                                                                     |
|-----------------|---------------------------------------------------------------------|
| Description     | Access to a group of commands to configure the <i>NTCE</i> service. |
| Prefix no       | No                                                                  |
| Change settings | No                                                                  |
| Multiple input  | No                                                                  |

**Group entry** (config-ntce)

**Synopsis** (config)> **ntce**

**Example** (config)> **ntce**  
(config-ntce)>

**History**

| Version | Description                                  |
|---------|----------------------------------------------|
| 3.07    | The <b>ntce</b> command has been introduced. |

### 3.114.1 ntce debug

**Description** Enable debug for the [NTCE](#) service. By default, setting is disabled.  
Command with **no** prefix disables the feature.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Synopsis** (config-ntce)> **debug**  
(config-ntce)> **no debug**

**Example** (config-ntce)> **debug**  
Ntce::Manager: Enabled debug.  
(config-ntce)> **no debug**  
Ntce::Manager: Disabled debug.

**History**

| Version | Description                                        |
|---------|----------------------------------------------------|
| 3.07    | The <b>ntce debug</b> command has been introduced. |

### 3.114.2 ntce filter assign host

**Description** Assign [NTCE](#) filter profile to a registered host.  
The new profile can be added with [ntce filter profile](#) command.  
The list of profiles in the system can be displayed with [show ntce filter profile](#) command.

Command with **no** prefix removes the defined profile for host. If you use no argument, the entire list of profiles will be cleared for hosts.

**Prefix no** Yes



**Change settings** Yes

**Multiple input** Yes

**Synopsis**

```
(config-ntce)> filter assign host <host> <profile>

(config-ntce)> no filter assign host [ <host> ]
```

**Arguments**

| Argument | Value              | Description                     |
|----------|--------------------|---------------------------------|
| host     | <i>MAC address</i> | MAC address of registered host. |
| profile  | <i>String</i>      | NTCE filter profile name.       |

**Example**

```
(config-ntce)> filter assign host 04:12:c4:54:bc:59 test
Ntce::Profiles: Associated host "04:d4:12:54:bc:59" with profile ►
"test".
```

```
(config-ntce)> no filter assign host 04:d4:12:54:bc:59
Ntce::Profiles: Removed profile for host "04:d4:12:54:bc:59".
```

```
(config-ntce)> no filter assign host
Ntce::Profiles: Removed profiles for hosts.
```

**History**

| Version | Description                                                     |
|---------|-----------------------------------------------------------------|
| 4.02    | The <b>ntce filter assign host</b> command has been introduced. |

## 3.114.3 ntce filter assign interface

**Description** Assign [NTCE](#) filter profile to an interface.

The new profile can be added with [ntce filter profile](#) command.

The list of profiles in the system can be displayed with [show ntce filter profile](#) command.

Command with **no** prefix removes the defined profile for interface. If you use no argument, the entire list of profiles for interfaces will be cleared.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** Yes

**Synopsis**

```
(config-ntce)> filter assign interface <interface> <profile>

(config-ntce)> no filter assign interface [ <interface> ]
```

**Arguments**

| Argument  | Value            | Description               |
|-----------|------------------|---------------------------|
| interface | <i>Interface</i> | Network interface name.   |
| profile   | <i>String</i>    | NTCE filter profile name. |

**Example**

```
(config-ntce)> filter assign interface Bridge0 test
Ntce::Profiles: "test": associated interface "Bridge0" with ►
profile "test".
```

```
(config-ntce)> no filter assign interface Bridge0
Ntce::Profiles: Removed profile for interface "Bridge0".
```

```
(config-ntce)> no filter assign interface
Ntce::Profiles: Removed profiles for interfaces.
```

**History**

| Version | Description                                                          |
|---------|----------------------------------------------------------------------|
| 4.02    | The <b>ntce filter assign interface</b> command has been introduced. |

## 3.114.4 ntce filter profile

**Description**

Create a custom *NTCE* filtering profile.

Command with **no** prefix removes the profile.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

Yes

**Interface type**

IP

**Synopsis**

```
(config-ntce)> filter profile <name>
```

```
(config-ntce)> no filter profile <name>
```

**Arguments**

| Argument | Value         | Description               |
|----------|---------------|---------------------------|
| name     | <i>String</i> | NTCE filter profile name. |

**Example**

```
(config-ntce)> filter profile test
Ntce::Profiles: Created profile "test".
```

```
(config-ntce)> no filter profile test
Ntce::Profiles: "test": removed profile.
```

| History | Version | Description                                                 |
|---------|---------|-------------------------------------------------------------|
|         | 4.02    | The <b>ntce filter profile</b> command has been introduced. |

### 3.114.5 ntce filter profile application

**Description** Add application to the *NTCE* filter profile.  
Command with **no** prefix removes the setting.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Synopsis**

```
(config-ntce)> filter profile <name> application <application>
(config-ntce)> no filter profile <name> application <application>
```

| Arguments | Argument    | Value         | Description               |
|-----------|-------------|---------------|---------------------------|
|           | name        | <i>String</i> | NTCE filter profile name. |
|           | application | <i>String</i> | Application name.         |

**Example**

```
(config-ntce)> filter profile test application youtube-kids
Ntce::Profiles: "test": added application "youtube-kids".

(config-ntce)> no filter profile test application youtube-kids
Ntce::Profiles: "test": removed application "youtube-kids".
```

| History | Version | Description                                                             |
|---------|---------|-------------------------------------------------------------------------|
|         | 4.02    | The <b>ntce filter profile application</b> command has been introduced. |

### 3.114.6 ntce filter profile description

**Description** Assign description for the *NTCE* filter profile.  
Command with **no** prefix deletes the profile description.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Synopsis**

```
(config-ntce)> filter profile <name> description <description>
```

```
(config-ntce)> no filter profile <name> description
```

**Arguments**

| Argument    | Value         | Description                           |
|-------------|---------------|---------------------------------------|
| name        | <i>String</i> | NTCE filter profile name.             |
| description | <i>String</i> | Arbitrary description of the profile. |

**Example**

```
(config-ntce)> filter profile test description myprofile
Ntce::Profiles: "test": set description "myprofile".
```

```
(config-ntce)> no filter profile test description
Ntce::Profiles: "test": set description "".
```

**History**

| Version | Description                                                             |
|---------|-------------------------------------------------------------------------|
| 4.02    | The <b>ntce filter profile description</b> command has been introduced. |

## 3.114.7 ntce filter profile group

**Description**

Add application group to the [NTCE](#) filter profile.

Command with **no** prefix removes the setting.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

No

**Synopsis**

```
(config-ntce)> filter profile <name> group <group>
```

```
(config-ntce)> no filter profile <name> group <group>
```

**Arguments**

| Argument | Value         | Description               |
|----------|---------------|---------------------------|
| name     | <i>String</i> | NTCE filter profile name. |
| group    | <i>String</i> | Application group name.   |

**Example**

```
(config-ntce)> filter profile test group gaming
Ntce::Profiles: "test": added group "gaming".
```

```
(config-ntce)> no filter profile test group gaming
Ntce::Profiles: "test": removed group "gaming".
```

**History**

| Version | Description                                                       |
|---------|-------------------------------------------------------------------|
| 4.02    | The <b>ntce filter profile group</b> command has been introduced. |

### 3.114.8 ntce filter profile schedule

**Description** Assign a schedule work to the [NTCE](#) filter profile.

Command with **no** prefix unbinds the schedule.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Synopsis**

```
(config-ntce)> filter profile <name> schedule <schedule>
```

```
(config-ntce)> no filter profile <name> schedule
```

**Arguments**

| Argument | Value           | Description                                                                                |
|----------|-----------------|--------------------------------------------------------------------------------------------|
| name     | <i>String</i>   | NTCE filter profile name.                                                                  |
| schedule | <i>Schedule</i> | The name of the schedule that was created with <a href="#">schedule</a> group of commands. |

**Example**

```
(config-ntce)> filter profile test schedule schedule1  
Ntce::Profiles: "test": set schedule "schedule1".
```

```
(config-ntce)> no filter profile test schedule  
Ntce::Profiles: "test": removed schedule.
```

**History**

| Version | Description                                                          |
|---------|----------------------------------------------------------------------|
| 4.02    | The <b>ntce filter profile schedule</b> command has been introduced. |

### 3.114.9 ntce filter profile type

**Description** Set the permission type of the [NTCE](#) filter profile.

**Prefix no** No

**Change settings** Yes

**Multiple input** No

**Synopsis**

```
(config-ntce)> filter profile <name> type <type>
```

**Arguments**

| Argument | Value         | Description               |
|----------|---------------|---------------------------|
| name     | <i>String</i> | NTCE filter profile name. |
| type     | permit        | Permit type profile.      |
|          | deny          | Deny type profile.        |

**Example**

```
(config-ntce)> filter profile test type permit
Ntce::Profiles: "test": set type "permit".
```

```
(config-ntce)> filter profile test type deny
Ntce::Profiles: "test": set type "deny".
```

**History**

| Version | Description                                                      |
|---------|------------------------------------------------------------------|
| 4.02    | The <b>ntce filter profile type</b> command has been introduced. |

## 3.114.10 ntce memory-watcher

**Description**

Enable the memory pressure watcher mechanism for the [NTCE](#) service. By default, setting is enabled.

Command with **no** prefix disables the feature.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

No

**Synopsis**

```
(config-ntce)> memory-watcher
```

```
(config-ntce)> no memory-watcher
```

**Example**

```
(config-ntce)> memory-watcher
Ntce::Manager: Enabled automatic memory pressure handler.
```

```
(config-ntce)> no memory-watcher
Ntce::Manager: Disabled automatic memory pressure handler.
```

**History**

| Version | Description                                                 |
|---------|-------------------------------------------------------------|
| 3.08    | The <b>ntce memory-watcher</b> command has been introduced. |

## 3.114.11 ntce qos category priority

**Description**

Set priorities for traffic categories.

Command with **no** prefix resets setting to default.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

No

**Synopsis**

```
(config-ntce)> qos category <category>priority <priority>
```

```
(config-ntce)> qos category <category>no priority
```

**Arguments**

| Argument | Value            | Description                                               |
|----------|------------------|-----------------------------------------------------------|
| category | calling          | ① Top.                                                    |
|          | gaming           | ② Critical.                                               |
|          | streaming        | ③ High.                                                   |
|          | work             | ④ Medium-high.                                            |
|          | surfing          | ⑤ Medium.                                                 |
|          | other            | ⑥ Normal (Default).                                       |
|          | filetransferring | ⑦ Low.                                                    |
| priority | Integer          | Priority value. Can take values in the range from 1 to 7. |

**Example**

```
(config-ntce)> qos category work priority 7
Ntce::Manager: Set category "work" priority to "7".
```

```
(config-ntce)> qos category other no priority
Ntce::Manager: Reset QoS priority for category "work".
```

**History**

| Version | Description                                                        |
|---------|--------------------------------------------------------------------|
| 3.08    | The <b>ntce qos category priority</b> command has been introduced. |

## 3.114.12 ntce qos enable

**Description**

Enable IntelliQoS, which ensures inbound, and outbound bandwidth for prioritized applications and tasks via pre-defined category groups presets. By default the service is disabled.

Command with **no** prefix disables the feature.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

No

**Synopsis**

```
(config-ntce)> qos enable
```

```
(config-ntce)> no qos enable
```

**Example**

```
(config-ntce)> qos enable
Ntce::Manager: Enabled QoS.
```

```
(config-ntce)> no qos enable
Ntce::Manager: Disabled QoS.
```

**History**

| Version | Description                                             |
|---------|---------------------------------------------------------|
| 3.07    | The <b>ntce qos enable</b> command has been introduced. |

## 3.114.13 ntce upstream rate-limit input

**Description**

Add limitation on the inbound traffic for specified interface.

Command with **no** prefix removes the setting.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

No

**Synopsis**

```
(config-ntce)> upstream rate-limit <interface> input (<rate> | auto)
```

```
(config-ntce)> no upstream rate-limit <interface> input
```

**Arguments**

| Argument  | Value            | Description                                                                      |
|-----------|------------------|----------------------------------------------------------------------------------|
| interface | <i>Interface</i> | The name of a global interface to rate-limit.                                    |
| rate      | <i>Integer</i>   | The ingress rate limit in kbps. Can take values in the range from 64 to 1000000. |
| auto      | <i>Keyword</i>   | Auto-ingress mode.                                                               |

**Example**

```
(config-ntce)> upstream rate-limit ISP input auto
Ntce::Upstreams: Set ISP input rate limit to "auto".
```

```
(config-ntce)> upstream rate-limit ISP input 1000000
Ntce::Upstreams: Set ISP input rate limit to "1000000" kbps.
```

```
(config-ntce)> no upstream rate-limit ISP input
Ntce::Upstreams: Reset ISP input rate limit.
```

**History**

| Version | Description                                                            |
|---------|------------------------------------------------------------------------|
| 4.01    | The <b>ntce upstream rate-limit input</b> command has been introduced. |

## 3.114.14 ntce upstream rate-limit output

**Description**

Add limitation on the outbound traffic for specified interface.

Command with **no** prefix removes the setting.



**Prefix no** Yes**Change settings** Yes**Multiple input** No

**Synopsis**

```
(config-ntce)> upstream rate-limit <interface> output (<rate> | auto)
```

```
(config-ntce)> no upstream rate-limit <interface> output
```

**Arguments**

| Argument  | Value            | Description                                                                      |
|-----------|------------------|----------------------------------------------------------------------------------|
| interface | <i>Interface</i> | The name of a global interface to rate-limit.                                    |
| rate      | <i>Integer</i>   | The ingress rate limit in kbps. Can take values in the range from 64 to 1000000. |
| auto      | <i>Keyword</i>   | Auto-ingress mode.                                                               |

**Example**

```
(config-ntce)> upstream rate-limit ISP output auto  
Ntce::Upstreams: Set ISP output rate limit to "auto".
```

```
(config-ntce)> upstream rate-limit ISP output 1000000  
Ntce::Upstreams: Set ISP output rate limit to "1000000" kbps.
```

```
(config-ntce)> no upstream rate-limit ISP output  
Ntce::Upstreams: Reset ISP output rate limit.
```

**History**

| Version | Description                                                             |
|---------|-------------------------------------------------------------------------|
| 4.01    | The <b>ntce upstream rate-limit output</b> command has been introduced. |

## 3.115 ntp

**Description** Access to configure [NTP](#) client.Command with **no** prefix resets [NTP](#) client configuration to default.**Prefix no** Yes**Change settings** No**Multiple input** No

**Synopsis**

```
(config)> no ntp
```

**Example**

```
(config)> no ntp  
Ntp::Client: Configuration reset.
```

**History**

| Version | Description                                 |
|---------|---------------------------------------------|
| 2.00    | The <b>ntp</b> command has been introduced. |

## 3.116 ntp master

**Description** Enable [SNTP](#) server in private and protected network segments.

Command with **no** prefix stops the service.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Synopsis**

```
(config)> ntp master
```

```
(config)> no ntp master
```

**Example**

```
(config)> ntp mater
Ntp::Server: Enabled master mode.
```

```
(config)> no ntp master
Ntp::Server: Disabled master mode.
```

**History**

| Version | Description                                        |
|---------|----------------------------------------------------|
| 3.09    | The <b>ntp master</b> command has been introduced. |

## 3.117 ntp server

**Description** Add a new [NTP](#) server to the list. You can enter up to 8 [NTP](#) servers.

Command with **no** prefix deletes [NTP](#) server from the list. If you use no argument, the entire list of [NTP](#) servers will be removed.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** Yes

**Synopsis**

```
(config)> ntp server <server>
```

```
(config)> no ntp server [ <server> ]
```

| Arguments | Argument | Value         | Description                |
|-----------|----------|---------------|----------------------------|
|           | server   | <i>String</i> | Host of <i>NTP</i> server. |

**Example**

```
(config)> ntp server pool.ntp.org
Ntp::Client: Server "pool.ntp.org" has been added.
```

```
(config)> no ntp server
Ntp::Client: All NTP servers removed.
```

**History**

| Version | Description                                        |
|---------|----------------------------------------------------|
| 2.00    | The <b>ntp server</b> command has been introduced. |

## 3.118 ntp source

**Description** Set a specific source IP address for *NTP* service.  
Command with **no** prefix removes the setting.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** Yes

**Synopsis**

```
(config)> ntp source <address>
```

```
(config)> no ntp source
```

**Arguments**

| Argument | Value             | Description                                |
|----------|-------------------|--------------------------------------------|
| address  | <i>IP address</i> | The source IP address for all NTP packets. |

**Example**

```
(config)> ntp source 192.168.2.2
Ntp::Client: Source has been set.
```

```
(config)> no ntp source
Ntp::Client: Source has been reset.
```

**History**

| Version | Description                                        |
|---------|----------------------------------------------------|
| 4.01    | The <b>ntp source</b> command has been introduced. |

## 3.119 ntp sync-period

**Description** Set a period for time synchronization. By default, 1 week is used.

Command with **no** prefix resets time synchronization to default.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Synopsis**

```
(config)> ntp sync-period <period>
(config)> no ntp sync-period
```

**Arguments**

| Argument | Value          | Description                                                                                |
|----------|----------------|--------------------------------------------------------------------------------------------|
| period   | <i>Integer</i> | Time synchronization, in minutes. Can take values in the range from 60 minutes to 1 month. |

**Example**

```
(config)> ntp sync-period 60
Ntp::Client: A synchronization period set to 60 minutes.
```

```
(config)> no ntp sync-period
Ntp::Client: Synchronization period value reset.
```

**History**

| Version | Description                                             |
|---------|---------------------------------------------------------|
| 2.00    | The <b>ntp sync-period</b> command has been introduced. |

## 3.120 object-group fqdn

**Description** Create an object group with automatic FQDN name resolution.

Command with **no** prefix removes the group.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** Yes

**Interface type** IP

**Group entry** (config-ogrp-fqdn)

**Synopsis**

```
(config)> object-group fqdn <name>
(config)> no object-group fqdn <name>
```

**Arguments**

| Argument | Value         | Description                    |
|----------|---------------|--------------------------------|
| name     | <i>String</i> | Name of the FQDN object group. |

**Example**

```
(config)> object-group fqdn TEST
Network::ObjectGroup: "TEST": group created.
```

```
(config)> no object-group fqdn TEST
Network::ObjectGroup: "TEST": group removed.
```

**History**

| Version | Description                                               |
|---------|-----------------------------------------------------------|
| 4.03    | The <b>object-group fqdn</b> command has been introduced. |

## 3.120.1 object-group fqdn exclude

**Description**

Add or remove non-matching element of the object group.

Command with **no** prefix removes the setting. If you use no argument, the entire object group element list is cleared.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

Yes

**Synopsis**

```
(config-ogrp-fqdn)> exclude <address>
```

```
(config-ogrp-fqdn)> no exclude [ <address> ]
```

**Arguments**

| Argument | Value         | Description                                                                                      |
|----------|---------------|--------------------------------------------------------------------------------------------------|
| address  | <i>String</i> | IPv4 or IPv6 address, subnet mask (in prefix length notation, for example, /24), or domain name. |

**Example**

```
(config-ogrp-ip)> exclude exemple.com
Network::ObjectGroup: "domain-list0": added excluded FQDN ►
"exemple.com".
```

```
(config-ogrp-ip)> exclude 8.8.8.8
Network::ObjectGroup: "domain-list0": added excluded FQDN ►
"8.8.8.8".
```

```
(config-ogrp-ip)> exclude 0.0.0.0/0
Network::ObjectGroup: "domain-list0": added excluded FQDN ►
"0.0.0.0/0".
```

```
(config-ogrp-ip)> exclude 2001:4860:4860::8888
Network::ObjectGroup: "domain-list0": added excluded FQDN ►
"2001:4860:4860::8888".
```

```
(config-ogrp-ip)> exclude ::/0
Network::ObjectGroup: "domain-list0": added excluded FQDN "::/0".
```

```
(config-ogrp-ip)> no exclude example.com
Network::ObjectGroup: "domain-list0": removed excluded FQDN ►
"example.com".
```

```
(config-ogrp-ip)> no exclude 8.8.8.8
Network::ObjectGroup: "domain-list0": removed excluded FQDN ►
"8.8.8.8".
```

```
(config-ogrp-ip)> no exclude 0.0.0.0/0
Network::ObjectGroup: "domain-list0": removed excluded FQDN ►
"0.0.0.0/0".
```

```
(config-ogrp-ip)> no exclude 2001:4860:4860::8888
Network::ObjectGroup: "domain-list0": removed excluded FQDN ►
"2001:4860:4860::8888".
```

```
(config-ogrp-ip)> no exclude ::/0
Network::ObjectGroup: "domain-list0": removed excluded FQDN ►
"::/0".
```

```
(config-ogrp-ip)> no exclude
Network::ObjectGroup: "domain-list0": cleared excluded.
```

## History

| Version | Description                                                       |
|---------|-------------------------------------------------------------------|
| 4.03    | The <b>object-group fqdn exclude</b> command has been introduced. |
| 5.00    | Added support for IP subnets.                                     |

## 3.120.2 object-group fqdn include

**Description** Add or remove matching element of the object group.

Command with **no** prefix removes the setting. If you use no argument, the entire object group element list is cleared.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** Yes

### Synopsis

```
(config-ogrp-fqdn)> include <address>
```

```
(config-ogrp-fqdn)> no include [ <address> ]
```

**Arguments**

| Argument | Value         | Description                                                                                      |
|----------|---------------|--------------------------------------------------------------------------------------------------|
| address  | <i>String</i> | IPv4 or IPv6 address, subnet mask (in prefix length notation, for example, /24), or domain name. |

**Example**

```
(config-ogrp-ip)> include exemple.com
Network::ObjectGroup: "domain-list0": added included FQDN ►
"exemple.com".
```

```
(config-ogrp-ip)> include 8.8.8.8
Network::ObjectGroup: "domain-list0": added included FQDN ►
"8.8.8.8".
```

```
(config-ogrp-ip)> include 0.0.0.0/0
Network::ObjectGroup: "domain-list0": added included FQDN ►
"0.0.0.0/0".
```

```
(config-ogrp-ip)> include 2001:4860:4860::8888
Network::ObjectGroup: "domain-list0": added included FQDN ►
"2001:4860:4860::8888".
```

```
(config-ogrp-ip)> include ::/0
Network::ObjectGroup: "domain-list0": added included FQDN "::

```

```
(config-ogrp-ip)> no include exemple.com
Network::ObjectGroup: "domain-list0": removed included FQDN ►
"exemple.com".
```

```
(config-ogrp-ip)> no include 8.8.8.8
Network::ObjectGroup: "domain-list0": removed included FQDN ►
"8.8.8.8".
```

```
(config-ogrp-ip)> no include 0.0.0.0/0
Network::ObjectGroup: "domain-list0": removed included FQDN ►
"0.0.0.0/0".
```

```
(config-ogrp-ip)> no include 2001:4860:4860::8888
Network::ObjectGroup: "domain-list0": removed included FQDN ►
"2001:4860:4860::8888".
```

```
(config-ogrp-ip)> no include ::/0
Network::ObjectGroup: "domain-list0": removed included FQDN ►
"::

```

```
(config-ogrp-ip)> no include
Network::ObjectGroup: "domain-list0": cleared included.
```

**History**

| Version | Description                                                       |
|---------|-------------------------------------------------------------------|
| 4.03    | The <b>object-group fqdn include</b> command has been introduced. |
| 5.00    | Added support for IP subnets.                                     |

## 3.121 object-group ip

**Description** Create an object group of IP type, which can store IPv4 subnets with optional L4 protocol and port range info.

Command with **no** prefix removes the group.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** Yes

**Interface type** IP

**Group entry** (config-ogrp-ip)

**Synopsis**

```
(config)> object-group ip <name>
```

```
(config)> no object-group ip <name>
```

| Argument | Value         | Description                    |
|----------|---------------|--------------------------------|
| name     | <i>String</i> | Name of the IPv4 object group. |

**Example**

```
(config)> object-group ip test
Network::ObjectGroup: "test": group created.
```

```
(config)> no object-group ip test
Network::ObjectGroup: "test": group removed.
```

| Version | Description                                             |
|---------|---------------------------------------------------------|
| 4.00    | The <b>object-group ip</b> command has been introduced. |

### 3.121.1 object-group ip exclude

**Description** Add or remove non-matching element of the object group.

Command with **no** prefix removes the setting.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** Yes

**Synopsis**

```
(config-ogrp-ip)> exclude <proto> <address> [ <port> [<end-port>]]
```



```
(config-ogrp-ip)> no exclude <proto> <address> [ <port> [ <end-port> ] ]
```

**Arguments**

| Argument | Value          | Description                                                                                                            |
|----------|----------------|------------------------------------------------------------------------------------------------------------------------|
| proto    | ip             | <i>IP</i> protocol (include <i>TCP</i> , <i>UDP</i> , <i>ICMP</i> and other).                                          |
|          | tcp            | <i>TCP</i> protocol.                                                                                                   |
|          | udp            | <i>UDP</i> protocol.                                                                                                   |
|          | tcpudp         | <i>TCP</i> and <i>UDP</i> protocols.                                                                                   |
|          | icmp           | <i>ICMP</i> protocol.                                                                                                  |
|          | esp            | <i>ESP</i> protocol.                                                                                                   |
|          | gre            | <i>GRE</i> protocol.                                                                                                   |
|          | ipip           | <i>IP in IP</i> protocol.                                                                                              |
| address  | <i>String</i>  | IP address or subnet (in the form of prefix bit length (e.g. 1.2.3.0/24)).                                             |
| port     | <i>Integer</i> | TCP/UDP port number for which a translation request comes. If not specified, all incoming requests will be translated. |
| end-port | <i>Integer</i> | The end of the range of ports.                                                                                         |

**Example**

```
(config-ogrp-ip)> exclude tcpudp 1.2.3.0/24 70 80
Network::ObjectGroup: "test": added exclude tcpudp 1.2.3.0/24 ►
70-80.
```

```
(config-ogrp-ip)> no exclude tcpudp 1.2.3.0/24 70 80
Network::ObjectGroup: "test": removed exclude tcpudp 1.2.3.0/24 ►
70-80.
```

**History**

| Version | Description                                                     |
|---------|-----------------------------------------------------------------|
| 4.00    | The <b>object-group ip exclude</b> command has been introduced. |

## 3.121.2 object-group ip include

**Description** Add or remove matching element of the object group.

Command with **no** prefix removes the setting.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** Yes

**Synopsis**

```
(config-ogrp-ip)> include <proto> <address> [ <port> [<end-port>]]
```

```
(config-ogrp-ip)> no include <proto> <address> [ <port> [<end-port>]]
```

### Arguments

| Argument | Value          | Description                                                                                                            |
|----------|----------------|------------------------------------------------------------------------------------------------------------------------|
| proto    | ip             | <a href="#">IP</a> protocol (include <a href="#">TCP</a> , <a href="#">UDP</a> , <a href="#">ICMP</a> and other).      |
|          | tcp            | <a href="#">TCP</a> protocol.                                                                                          |
|          | udp            | <a href="#">UDP</a> protocol.                                                                                          |
|          | tcpudp         | <a href="#">TCP</a> and <a href="#">UDP</a> protocols.                                                                 |
|          | icmp           | <a href="#">ICMP</a> protocol.                                                                                         |
|          | esp            | <a href="#">ESP</a> protocol.                                                                                          |
|          | gre            | <a href="#">GRE</a> protocol.                                                                                          |
|          | ipip           | <a href="#">IP in IP</a> protocol.                                                                                     |
| address  | <i>String</i>  | IP address or subnet (in the form of prefix bit length (e.g. 1.2.3.0/24)).                                             |
| port     | <i>Integer</i> | TCP/UDP port number for which a translation request comes. If not specified, all incoming requests will be translated. |
| end-port | <i>Integer</i> | The end of the range of ports.                                                                                         |

### Example

```
(config-ogrp-ip)> include tcpudp 1.2.3.0/24 75 80
Network::ObjectGroup: "test": added include tcpudp 1.2.3.0/24 ►
75-80.
```

```
(config-ogrp-ip)> no include tcpudp 1.2.3.0/24 75 80
Network::ObjectGroup: "test": removed include tcpudp 1.2.3.0/24 ►
75-80.
```

### History

| Version | Description                                                     |
|---------|-----------------------------------------------------------------|
| 4.00    | The <b>object-group ip include</b> command has been introduced. |

## 3.122 oc-server

|                        |                                                                                           |
|------------------------|-------------------------------------------------------------------------------------------|
| <b>Description</b>     | Access to a group of commands to configure <a href="#">OpenConnect</a> server parameters. |
| <b>Prefix no</b>       | No                                                                                        |
| <b>Change settings</b> | No                                                                                        |
| <b>Multiple input</b>  | No                                                                                        |
| <b>Group entry</b>     | (oc-server)                                                                               |

**Synopsis**

```
(config)> oc-server
```

**Example**

```
(config)> oc-server
(oc-server)>
```

**History**

| Version | Description                                       |
|---------|---------------------------------------------------|
| 4.02    | The <b>oc-server</b> command has been introduced. |

## 3.122.1 oc-server camouflage

**Description**

Enable the camouflage mode for the [OpenConnect](#) server, which provides greater security from remote service scanning. By default, the mode is disabled.

Command with **no** prefix disables the camouflage mode.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

No

**Synopsis**

```
(oc-server)> camouflage
```

```
(oc-server)> no camouflage
```

**Example**

```
(oc-server)> camouflage
OcServer::Manager: Enabled camouflage mode.
```

```
(oc-server)> no camouflage
OcServer::Manager: Disabled camouflage mode.
```

**History**

| Version | Description                                                  |
|---------|--------------------------------------------------------------|
| 4.02    | The <b>oc-server camouflage</b> command has been introduced. |

## 3.122.2 oc-server debug

**Description**

Enable debug mode for [OpenConnect](#) server. Detailed information about the progress of the [OpenConnect](#) client connection to the [OpenConnect](#) server is saved to the system log. By default, setting is disabled.

Command with **no** prefix disables the debug mode.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

No

**Synopsis**`(oc-server)> debug``(oc-server)> no debug`**Example**

```
(oc-server)> debug
OcServer::Manager: Enabled debug.
```

```
(oc-server)> no debug
OcServer::Manager: Disabled debug.
```

**History**

| Version | Description                                             |
|---------|---------------------------------------------------------|
| 4.03    | The <b>oc-server debug</b> command has been introduced. |

## 3.122.3 oc-server interface

**Description**Bind [OpenConnect](#) server to the specified interface.Command with **no** prefix unbinds the interface.**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

No

**Synopsis**`(oc-server)> interface <interface>``(oc-server)> no interface`**Arguments**

| Argument  | Value            | Description                                                                                                                |
|-----------|------------------|----------------------------------------------------------------------------------------------------------------------------|
| interface | <i>Interface</i> | Full interface name or an alias. You can see the list of available interfaces with help of <b>interface</b> [Tab] command. |

**Example**

```
(oc-server)> interface Bridge0
OcServer::Manager: Bound to Bridge0.
```

```
(oc-server)> no interface
OcServer::Manager: Reset interface binding.
```

**History**

| Version | Description                                                 |
|---------|-------------------------------------------------------------|
| 4.02    | The <b>oc-server interface</b> command has been introduced. |

### 3.122.4 oc-server mtu

**Description** Set *MTU* value to be transmitted to *OpenConnect* server. By default, 1350 value is used.

Command with **no** prefix resets value to default.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Synopsis**

```
(oc-server)> mtu <value>
(oc-server)> no mtu
```

**Arguments**

| Argument | Value          | Description                                                                  |
|----------|----------------|------------------------------------------------------------------------------|
| value    | <i>Integer</i> | <i>MTU</i> value. Can take values in the range from 128 to 1500 inclusively. |

**Example**

```
(oc-server)> mtu 1350
OcServer::Manager: MTU set to 1350.
```

```
(oc-server)> no mtu
OcServer::Manager: MTU reset.
```

**History**

| Version | Description                                           |
|---------|-------------------------------------------------------|
| 4.02    | The <b>oc-server mtu</b> command has been introduced. |

### 3.122.5 oc-server multi-login

**Description** Allow connection to *OpenConnect* server for multiple users from one account.

Command with **no** prefix disables this feature.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Synopsis**

```
(oc-server)> multi-login
(oc-server)> no multi-login
```

**Example**

```
(oc-server)> multi-login
OcServer::Manager: Enabled multiple login.
```

```
(oc-server)> no multi-login
OcServer::Manager: Disabled multiple login.
```

**History**

| Version | Description                                                   |
|---------|---------------------------------------------------------------|
| 4.02    | The <b>oc-server multi-login</b> command has been introduced. |

## 3.122.6 oc-server pool-range

**Description** Assign a pool of addresses for the clients that connect to the [OpenConnect](#) server.

Command with **no** prefix removes a pool.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Synopsis**

```
(oc-server)> oc-server <begin> [ <size> ]
```

```
(oc-server)> no oc-server
```

**Arguments**

| Argument | Value             | Description            |
|----------|-------------------|------------------------|
| begin    | <i>IP address</i> | Start address of pool. |
| size     | <i>Integer</i>    | Pool size.             |

**Example**

```
(oc-server)> pool-range 192.168.1.30 7
OcServer::Manager: Configured pool range 192.168.1.30 to ►
192.168.1.36.
```

```
(oc-server)> no pool-range
OcServer::Manager: Reset pool range.
```

**History**

| Version | Description                                                  |
|---------|--------------------------------------------------------------|
| 4.02    | The <b>oc-server pool-range</b> command has been introduced. |

## 3.122.7 oc-server route

**Description** Assign a route which is transmitted in DHCP INFORM messages to the [OpenConnect](#) server clients.

Command with **no** prefix cancels the specified route. If you use no arguments, the entire list of routes will be cleared.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** Yes

**Synopsis**

```
(oc-server)> route <address> <mask>
(oc-server)> no route [ <address> <mask> ]
```

#### Arguments

| Argument | Value             | Description                                                                                                                                                      |
|----------|-------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| address  | <i>IP address</i> | Network client address.                                                                                                                                          |
| mask     | <i>IP-mask</i>    | Network client mask. There are two ways to enter the mask: the canonical form (for example, 255.255.255.0) and the form of prefix bit length (for example, /24). |

#### Example

```
(oc-server)> route 192.168.2.0/24
Vpn::DhcpInform: "OCSRVPN": added DHCP INFORM route to ►
192.168.2.0/24.
```

```
(oc-server)> no route 192.168.2.0/24
Vpn::DhcpInform: "OCSRVPN": removed DHCP INFORM route to ►
192.168.2.0/24.
```

```
(oc-server)> no route
Vpn::DhcpInform: "OCSRVPN": cleared DHCP INFORM routes.
```

#### History

| Version | Description                                             |
|---------|---------------------------------------------------------|
| 4.03    | The <b>oc-server route</b> command has been introduced. |

## 3.122.8 oc-server session-logout

**Description** Terminate an active or stalled session on the [OpenConnect](#) server.

**Prefix no** No

**Change settings** Yes

**Multiple input** No

**Synopsis**

```
(oc-server)> session-logout <session>
```

#### Arguments

| Argument | Value          | Description                                                                                             |
|----------|----------------|---------------------------------------------------------------------------------------------------------|
| session  | <i>Integer</i> | Identifier of the OpenConnect session (can be viewed using the <a href="#">show oc-server</a> command). |

**Example**

```
(oc-server)> session-logout 6
OcServer::Manager: Session "6" is terminated.
```

**History**

| Version | Description                                                      |
|---------|------------------------------------------------------------------|
| 4.03    | The <b>oc-server session-logout</b> command has been introduced. |

## 3.122.9 oc-server session-preempt

**Description**

Enable to preempt VPN sessions when **oc-server multi-login** option is disabled for the *OpenConnect* server.

Command with **no** prefix disables the preempt.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

No

**Synopsis**

```
(oc-server)> session-preempt
```

```
(oc-server)> no session-preempt
```

**Example**

```
(oc-server)> session-preempt
OcServer::Manager: Enabled session preemption.
```

```
(oc-server)> no session-preempt
OcServer::Manager: Disabled session preemption.
```

**History**

| Version | Description                                                       |
|---------|-------------------------------------------------------------------|
| 4.03    | The <b>oc-server session-preempt</b> command has been introduced. |

## 3.122.10 oc-server static-ip

**Description**

Bind IP address to the user. User account must have vpn-oc tag.

Command with **no** prefix removes binding.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

Yes

**Synopsis**

```
(oc-server)> static-ip <name> <address>
```



```
(oc-server)> no static-ip <name>
```

**Arguments**

| Argument | Value             | Description         |
|----------|-------------------|---------------------|
| name     | <i>String</i>     | Username.           |
| address  | <i>IP address</i> | IP address to bind. |

**Example**

```
(oc-server)> static-ip admin 192.168.1.30
OcServer::Manager: Static IP 192.168.1.30 assigned to user ►
"admin".
```

```
(oc-server)> no static-ip admin
OcServer::Manager: Static IP address removed for user "admin".
```

**History**

| Version | Description                                                 |
|---------|-------------------------------------------------------------|
| 4.02    | The <b>oc-server static-ip</b> command has been introduced. |

## 3.123 ping-check profile

**Description**

Access to a group of commands to configure [Ping Check](#) profile. If the profile is not found, the command tries to create it.

Command with **no** prefix removes [Ping Check](#) profile.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

Yes

**Group entry**

(config-pchk)

**Synopsis**

```
(config)> ping-check profile <name>
```

```
(config)> no ping-check profile <name>
```

**Arguments**

| Argument | Value         | Description                                                                                                                               |
|----------|---------------|-------------------------------------------------------------------------------------------------------------------------------------------|
| name     | <i>String</i> | <a href="#">Ping Check</a> profile name. You can see the list of available profiles with help of <b>ping-check profile [Tab]</b> command. |

**Example**

```
(config)> ping-check profile [Tab]
```

```
Usage template:
    profile {name}
```

```
Choose:
```

TEST  
MYMY

```
(config)> ping-check profile new_prof
PingCheck::Client: Profile "new_prof" has been created.
(config-pchk)>
```

```
(config)> no ping-check profile new_prof
PingCheck::Client: Profile "new_prof" has been deleted.
```

## History

| Version | Description                                                |
|---------|------------------------------------------------------------|
| 2.04    | The <b>ping-check profile</b> command has been introduced. |

## 3.123.1 ping-check profile host

**Description** Assign hostname for testing. By default, hostname is assigned according to country code.

Command with **no** prefix removes the hostname.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Synopsis**

```
(config-pchk)> host <host>
(config-pchk)> no host [ <host> ]
```

## Arguments

| Argument | Value           | Description                     |
|----------|-----------------|---------------------------------|
| host     | <i>Hostname</i> | Name or address of remote host. |

## Example

```
(config-pchk)> host 8.8.8.8
PingCheck::Profile: "test": add host "8.8.8.8" for testing.
```

```
(config-pchk)> host google.com
PingCheck::Profile: "test": add host "google.com" for testing.
```

```
(config-pchk)> no host
PingCheck::Profile: "test": hosts cleared.
```

## History

| Version | Description                                                     |
|---------|-----------------------------------------------------------------|
| 2.04    | The <b>ping-check profile host</b> command has been introduced. |

### 3.123.2 ping-check profile max-fails

**Description** Specify the number of consecutive failed requests to a remote host by obtaining of which the Internet at the interface considered absent. By default, value 5 is used.

Command with **no** prefix resets setting to default.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Synopsis**

```
(config-pchk)> max-fails <count>
(config-pchk)> no max-fails
```

| Argument | Value          | Description                                                                       |
|----------|----------------|-----------------------------------------------------------------------------------|
| count    | <i>Integer</i> | Amount of failed requests. Can take values in the range from 1 to 10 inclusively. |

**Example**

```
(config-pchk)> max-fails 7
PingCheck::Profile: "test": uses 7 fail count for disabling ►
interface.
```

```
(config-pchk)> no max-fails
PingCheck::Profile: "test": fail count is reset to 5.
```

| Version | Description                                                          |
|---------|----------------------------------------------------------------------|
| 2.04    | The <b>ping-check profile max-fails</b> command has been introduced. |

### 3.123.3 ping-check profile min-success

**Description** Specify the number of consecutive success requests to a remote host by obtaining of which the Internet at the interface considered present. By default, value 5 is used.

Command with **no** prefix resets setting to default.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Synopsis**

```
(config-pchk)> min-success <count>
```

```
(config-pchk)> no min-success
```

**Arguments**

| Argument | Value          | Description                                                                        |
|----------|----------------|------------------------------------------------------------------------------------|
| count    | <i>Integer</i> | Amount of success requests. Can take values in the range from 1 to 10 inclusively. |

**Example**

```
(config-pchk)> min-success 3
PingCheck::Profile: "test": uses 3 success count for enabling ►
interface.
```

```
(config-pchk)> no min-success
PingCheck::Profile: "test": success count is reset to 5.
```

**History**

| Version | Description                                                            |
|---------|------------------------------------------------------------------------|
| 2.04    | The <b>ping-check profile min-success</b> command has been introduced. |

## 3.123.4 ping-check profile mode

**Description**

Set *Ping Check* mode. By default, icmp value is used.

**Prefix no**

No

**Change settings**

Yes

**Multiple input**

No

**Synopsis**

```
(config-pchk)> mode <mode>
```

**Arguments**

| Argument | Value   | Description                                                                                            |
|----------|---------|--------------------------------------------------------------------------------------------------------|
| mode     | icmp    | The availability testing of remote host will be done by ICMP-echo request (ping) sending.              |
|          | connect | The availability testing of remote host will be done by TCP-connection establishing to specified port. |
|          | tls     | The availability testing of remote host will be done by TLS-connection.                                |
|          | uri     | The availability testing of remote host will be done by URI checking.                                  |

**Example**

```
(config-pchk)> mode tls
PingCheck::Profile: "test": uses tls mode.
```

| History | Version | Description                                                     |
|---------|---------|-----------------------------------------------------------------|
|         | 2.04    | The <b>ping-check profile mode</b> command has been introduced. |
|         | 3.09    | The <code>tls</code> argument was added.                        |
|         | 4.00    | The <code>uri</code> argument was added.                        |

### 3.123.5 ping-check profile port

**Description** Specify port for connection to the remote host. Setting has a meaning for connect mode of *Ping Check* (see **ping-check profile mode** command).

Command with **no** prefix removes the setting.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Synopsis**

```
(config-pchk)> port <port>
(config-pchk)> no port
```

| Arguments | Argument | Value          | Description                                                            |
|-----------|----------|----------------|------------------------------------------------------------------------|
|           | port     | <i>Integer</i> | Port number. Can take values in the range from 1 to 65534 inclusively. |

**Example**

```
(config-pchk)> port 80
PingCheck::Profile: "test": uses port 80 for testing.
```

```
(config-pchk)> no port
PingCheck::Profile: "test": port is cleared.
```

| History | Version | Description                                                     |
|---------|---------|-----------------------------------------------------------------|
|         | 2.04    | The <b>ping-check profile port</b> command has been introduced. |

### 3.123.6 ping-check profile timeout

**Description** Set the maximum response time of the remote host for a single request in seconds. By default, 2 value is used.

Command with **no** prefix resets setting to default.

**Prefix no** Yes

**Change settings** Yes**Multiple input** No

**Synopsis**

```
(config-pchk)> timeout <timeout>
```

```
(config-pchk)> no timeout
```

**Arguments**

| Argument | Value          | Description                                                                      |
|----------|----------------|----------------------------------------------------------------------------------|
| timeout  | <i>Integer</i> | Response time in seconds. Can take values in the range from 1 to 10 inclusively. |

**Example**

```
(config-pchk)> timeout 4
PingCheck::Profile: "test": timeout is changed to 4 seconds.
```

```
(config-pchk)> no timeout
PingCheck::Profile: "test": timeout is reset to 2.
```

**History**

| Version | Description                                                        |
|---------|--------------------------------------------------------------------|
| 2.04    | The <b>ping-check profile timeout</b> command has been introduced. |

### 3.123.7 ping-check profile update-interval

**Description** Set periodicity of *Ping Check* performing.**Prefix no** No**Change settings** Yes**Multiple input** No

**Synopsis**

```
(config-pchk)> update-interval <seconds>
```

**Arguments**

| Argument | Value          | Description                                                                         |
|----------|----------------|-------------------------------------------------------------------------------------|
| seconds  | <i>Integer</i> | Refresh period in seconds. Can take values in the range from 3 to 3600 inclusively. |

**Example**

```
(config-pchk)> update-interval 60
PingCheck::Profile: "test": update interval is changed to 60 ► seconds.
```

**History**

| Version | Description                                                                |
|---------|----------------------------------------------------------------------------|
| 2.04    | The <b>ping-check profile update-interval</b> command has been introduced. |

## 3.123.8 ping-check profile uri

**Description** Assign URI ([Uniform Resource Identifier](https://en.wikipedia.org/wiki/Uniform_Resource_Identifier)<sup>17</sup>) host for testing.

Command with **no** prefix removes the host.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Synopsis**

```
(config-pchk)> uri <uri>
(config-pchk)> no uri [ <uri> ]
```

**Arguments**

| Argument | Value           | Description                                   |
|----------|-----------------|-----------------------------------------------|
| uri      | <i>Hostname</i> | Name or address of remote HTTP or HTTPS host. |

**Example**

```
(config-pchk)> uri http://localhost:8888/
PingCheck::Profile: "TEST": add URI "http://localhost:8888/" for ►
testing.
```

```
(config-pchk)> uri https://localhost:4343/
PingCheck::Profile: "TEST": add URI "https://localhost:4343/" ►
for testing.
```

```
(config-pchk)> no uri http://localhost:8888/
PingCheck::Profile: "TEST": URIs cleared.
```

```
(config-pchk)> no uri
PingCheck::Profile: "TEST": URIs cleared.
```

**History**

| Version | Description                                                    |
|---------|----------------------------------------------------------------|
| 4.00    | The <b>ping-check profile uri</b> command has been introduced. |

## 3.124 ppe

**Description** Enable Packet Processing Engine. By default, the setting is turned on for SWNAT and HWNAT both.

Command with **no** prefix disables specified accelerator.

**Prefix no** Yes

**Change settings** Yes

<sup>17</sup> [https://en.wikipedia.org/wiki/Uniform\\_Resource\\_Identifier](https://en.wikipedia.org/wiki/Uniform_Resource_Identifier)

**Multiple input** No

**Synopsis**

```
(config)> ppe <engine>
(config)> no ppe [<engine>]
```

**Arguments**

| Argument | Value    | Description           |
|----------|----------|-----------------------|
| engine   | software | Software accelerator. |
|          | hardware | Hardware accelerator. |

**Example**

```
(config)> ppe software
Network::Interface::Rtx::Ppe: Software PPE enabled.
```

```
(config)> no ppe
Network::Interface::Rtx::Ppe: All PPE disabled.
```

**History**

| Version | Description                                     |
|---------|-------------------------------------------------|
| 2.00    | The <b>ppe</b> command has been introduced.     |
| 2.05    | Argument engine was implemented.                |
| 2.07    | Argument hardware-ipv6 was implemented.         |
| 4.00    | Argument hardware-ipv6 was removed as obsolete. |

## 3.125 pppoe pass

**Description** Enable PPPoE Pass Through function. You can enter up to 10 network nodes. Command with **no** prefix disables the function.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Interface type** Ethernet

**Synopsis**

```
(config)> pppoe pass through <wan-iface> <lan-iface>
(config)> no pppoe pass through
```

**Arguments**

| Argument  | Value            | Description                                                    |
|-----------|------------------|----------------------------------------------------------------|
| wan-iface | <i>Interface</i> | The starting interface — full WAN-interface name or an alias.  |
| lan-iface | <i>Interface</i> | The finishing interface — full LAN-interface name or an alias. |



**Example**

```
(config)> pppoe pass through Home ISP
Pppoe::Pass: Configured pass from "Bridge0" to "GigabitEthernet1".
```

```
(config)> no pppoe pass
Pppoe::Pass: Disabled.
```

**History**

| Version | Description                                        |
|---------|----------------------------------------------------|
| 2.00    | The <b>pppoe pass</b> command has been introduced. |

## 3.126 schedule

**Description**

Access to a group of commands to configure the schedule. If the schedule is not found, the command tries to create it.

Command with **no** prefix deletes the schedule.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

Yes

**Group entry**

(config-sched)

**Synopsis**

```
(config)> schedule <name>
```

```
(config)> no schedule <name>
```

**Arguments**

| Argument | Value         | Description      |
|----------|---------------|------------------|
| name     | <i>String</i> | A schedule name. |

**History**

| Version | Description                                      |
|---------|--------------------------------------------------|
| 2.06    | The <b>schedule</b> command has been introduced. |

### 3.126.1 schedule action

**Description**

Specify the actions to be performed according to the selected schedule.

Command with **no** prefix cancels the action.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

Yes

**Synopsis**

```
(config-sched)> action <action> <min> <hour> <dow>
```

```
(config-sched)> no action [ <action> <min> <hour> <dow> ]
```

**Arguments**

| Argument | Value          | Description                                                           |
|----------|----------------|-----------------------------------------------------------------------|
| action   | start          | Action of the beginning.                                              |
|          | stop           | Action of the end.                                                    |
| min      | <i>Integer</i> | The minutes.                                                          |
| hour     | <i>Integer</i> | The hours.                                                            |
| dow      | <i>Integer</i> | Days of the week, separated by commas. 0 means Sunday. * means daily. |

**Example**

```
(config-sched)> action start 00 3 0,1,2,3,4,5,6  
Core::Schedule::Manager: Updated schedule "rebootrouter".
```

**History**

| Version | Description                                             |
|---------|---------------------------------------------------------|
| 2.06    | The <b>schedule action</b> command has been introduced. |

## 3.126.2 schedule description

**Description**

Set description for the selected schedule.

Command with **no** prefix deletes the description.

**Prefix no**

Yes

**Change settings**

No

**Multiple input**

No

**Synopsis**

```
(config-sched)> description <description>
```

```
(config-sched)> no description
```

**Arguments**

| Argument    | Value         | Description              |
|-------------|---------------|--------------------------|
| description | <i>String</i> | Text of the description. |

**Example**

```
(config-sched)> description "Schedule for on/off Access Point"  
Core::Schedule::Manager: Updated description of schedule "WIFI".
```

**History**

| Version | Description                                                  |
|---------|--------------------------------------------------------------|
| 2.06    | The <b>schedule description</b> command has been introduced. |

### 3.126.3 schedule led

**Description** Set LED indication for the scheduled events. SelectedSchedule control should be chosen with [system led](#) command.

Command with **no** prefix removes LED indication.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Synopsis**

```
(config-sched)> led <action>
(config-sched)> no led
```

**Arguments**

| Argument | Value | Description                                     |
|----------|-------|-------------------------------------------------|
| action   | start | LED shows the beginning of the scheduled event. |
|          | stop  | LED shows the end of the scheduled event.       |

**Example**

```
(config-sched)> led start
Core::Schedule::Led: Selected schedule "111".
```

**History**

| Version | Description                                          |
|---------|------------------------------------------------------|
| 2.08    | The <b>schedule led</b> command has been introduced. |

### 3.127 service dhcp

**Description** Enable [DHCP server](#). If there is not enough settings to start the service (see [ip dhcp pool](#)), the service will not respond to the network. As soon as there are enough settings, the service will be enabled automatically.

Command with **no** prefix stops the service.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Synopsis**

```
(config)> service dhcp
(config)> no service dhcp
```

**Example**

```
(config)> service dhcp
service enabled.
```

**History**

| Version | Description                                          |
|---------|------------------------------------------------------|
| 2.00    | The <b>service dhcp</b> command has been introduced. |

## 3.128 service dhcp-relay

**Description**

Enable DHCP-relay. If there are not enough settings to start the service (see [ip dhcp relay lan](#), [ip dhcp relay server](#), [ip dhcp relay wan](#)), it will not respond within the network. As soon as there are enough settings, the service will be enabled automatically.

Command with **no** prefix stops the service.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

No

**Synopsis**

```
(config)> service dhcp-relay
```

```
(config)> no service dhcp-relay
```

**Example**

```
(config)> service dhcp-relay  
service enabled.
```

**History**

| Version | Description                                                |
|---------|------------------------------------------------------------|
| 2.00    | The <b>service dhcp-relay</b> command has been introduced. |

## 3.129 service dns-proxy

**Description**

Enable DNS-proxy. To configure the parameters of the service, use [Section 3.17 on page 107](#) group of commands.

**Prefix no**

No

**Change settings**

Yes

**Multiple input**

No

**Synopsis**

```
(config)> service dns-proxy
```

**Example**

```
(config)> service dns-proxy  
Dns::Manager: DNS proxy enabled.
```

**History**

| Version | Description                                               |
|---------|-----------------------------------------------------------|
| 2.00    | The <b>service dns-proxy</b> command has been introduced. |

## 3.130 service http

**Description** Enable HTTP server that provides the user with Web-interface to configure Sprinter.

Command with **no** prefix stops the service.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Synopsis**

```
(config)> service http
(config)> no service http
```

**Example**

```
(config)> service http
HTTP server enabled.
```

| History | Version | Description                                          |
|---------|---------|------------------------------------------------------|
|         | 2.00    | The <b>service http</b> command has been introduced. |

## 3.131 service igmp-proxy

**Description** Enable IGMP-proxy. For the service functioning it is necessary to have one upstream interface and at least one downstream interface. If there are not enough settings to run the service, the service will not function. As soon as there are enough settings, the service will start automatically.

Command with **no** prefix stops the service.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Synopsis**

```
(config)> service igmp-proxy
(config)> no service igmp-proxy
```

**Example**

```
(config)> service igmp-proxy
IGMP proxy enabled.
```

| History | Version | Description                                                |
|---------|---------|------------------------------------------------------------|
|         | 2.00    | The <b>service igmp-proxy</b> command has been introduced. |

## 3.132 service internet-checker

**Description** Enable the Internet-checker to monitor the state of Internet connection on the device. By default, service is enabled.

Command with **no** prefix stops the service.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Synopsis**

```
(config)> service internet-checker
```

```
(config)> no service internet-checker
```

**Example**

```
(config)> service internet-checker
Network::InternetChecker: Hosts check enabled.
```

```
(config)> no service internet-checker
Network::InternetChecker: Hosts check disabled.
```

**History**

| Version | Description                                                      |
|---------|------------------------------------------------------------------|
| 2.13    | The <b>service internet-checker</b> command has been introduced. |

## 3.133 service ipsec

**Description** Enable *IPsec* service. By default, service is disabled.

Command with **no** prefix stops the service.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Synopsis**

```
(config)> service ipsec
```

```
(config)> no service ipsec
```

**Example**

```
(config)>service ipsec
IpSec::Manager: Service enabled.
```

**History**

| Version | Description                                           |
|---------|-------------------------------------------------------|
| 2.06    | The <b>service ipsec</b> command has been introduced. |

## 3.134 service kabinet

**Description** Enable KAbINET authenticator service. By default it is disabled.

Command with **no** prefix stops the service.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Synopsis**

```
(config)> service kabinet
(config)> no service kabinet
```

**Example**

```
(config)> service kabinet
Kabinet::Authenticator: Authenticator enabled.

(config)> no service kabinet
Kabinet::Authenticator: Authenticator disabled.
```

**History**

| Version | Description                                             |
|---------|---------------------------------------------------------|
| 2.02    | The <b>service kabinet</b> command has been introduced. |

## 3.135 service mws

**Description** Enable [MWS](#) service. By default, service is disabled.

Command with **no** prefix stops the service.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Synopsis**

```
(config)> service mws
(config)> no service mws
```

**Example**

```
(config)> service mws
Mws::Controller: Enabled.

(config)> no service mws
Mws::Controller: Disabled.
```

## History

| Version | Description                                         |
|---------|-----------------------------------------------------|
| 2.15    | The <b>service mws</b> command has been introduced. |

## 3.136 service ntce

**Description** Enable *NTCE* service. By default it is disabled.  
Command with **no** prefix stops the service.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Synopsis**

```
(config)> service ntce
(config)> no service ntce
```

**Example**

```
(config)> service ntce
Ntce::Manager: Enabled.
```

## History

| Version | Description                                                                                           |
|---------|-------------------------------------------------------------------------------------------------------|
| 2.09    | The <b>service ntce</b> command has been introduced.<br>Previous command name is <b>service dpi</b> . |

## 3.137 service ntp

**Description** Enable *NTP* service. By default it is enabled.  
Command with **no** prefix stops the service.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Synopsis**

```
(config)> service ntp
(config)> no service ntp
```

**Example**

```
(config)> service ntp
Ntp::Client: NTP service enabled.

(config)> no service ntp
Ntp::Client: NTP service disabled.
```



| History | Version | Description                                                                                              |
|---------|---------|----------------------------------------------------------------------------------------------------------|
|         | 3.09    | The <b>service ntp</b> command has been introduced. Previous command name is <b>service ntp-client</b> . |

## 3.138 service oc-server

**Description** Enable [OpenConnect](#) server.  
Command with **no** prefix stops the service.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Synopsis**

```
(config)> service oc-server
(config)> no service oc-server
```

**Example**

```
(config)> service oc-server
OcServer::Manager: Service enabled.
```

```
(config)> no service oc-server
OcServer::Manager: Service disabled.
```

| History | Version | Description                                               |
|---------|---------|-----------------------------------------------------------|
|         | 4.02    | The <b>service oc-server</b> command has been introduced. |

## 3.139 service snmp

**Description** Enable [SNMP](#) service. By default, the service is disabled.  
Command with **no** prefix stops the service.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Synopsis**

```
(config)> service snmp
(config)> no service snmp
```

**Example**

```
(config)> service snmp
Snmp::Manager: SNMP service was enabled.
```

```
(config)> no service snmp
Snmplib::Manager: SNMP service was disabled.
```

**History**

| Version | Description                                          |
|---------|------------------------------------------------------|
| 2.08    | The <b>service snmp</b> command has been introduced. |

## 3.140 service ssh

**Description**

Enable the SSH server that provides the user with command line interface to configure the device.

Command with **no** prefix stops the service.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

No

**Synopsis**

```
(config)> service ssh
```

```
(config)> no service ssh
```

**Example**

```
(config)> service ssh
Ssh::Manager: SSH server enabled.
```

```
(config)> no service ssh
Ssh::Manager: SSH server disabled.
```

**History**

| Version | Description                                         |
|---------|-----------------------------------------------------|
| 2.12    | The <b>service ssh</b> command has been introduced. |

## 3.141 service sstp-server

**Description**

Enable [SSTP](#) server.

Command with **no** prefix stops the service.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

No

**Synopsis**

```
(config)> service sstp-server
```

```
(config)> no service sstp-server
```

**Example** (config)> **service sstp-server**  
SstpServer::Manager: Service enabled.

(config)> **no service sstp-server**  
SstpServer::Manager: Service disabled.

**History**

| Version | Description                                                 |
|---------|-------------------------------------------------------------|
| 2.12    | The <b>service sstp-server</b> command has been introduced. |

## 3.142 service telnet

**Description** Enable the telnet server that provides the user with command line interface to configure the device.

Command with **no** prefix stops the service.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Synopsis**

```
(config)>  service telnet
(config)> no service telnet
```

**Example** (config)> **service tel**  
Telnet server enabled.

**History**

| Version | Description                                            |
|---------|--------------------------------------------------------|
| 2.00    | The <b>service telnet</b> command has been introduced. |

## 3.143 service udpxy

**Description** Enable [udpxy](#) service.

Command with **no** prefix stops the service.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Synopsis**

```
(config)>  service udpxy
(config)> no service udpxy
```

**Example**

```
(config)> service udpxy
Udpxy::Manager: a service enabled.
```

**History**

| Version | Description                                           |
|---------|-------------------------------------------------------|
| 2.03    | The <b>service udpxy</b> command has been introduced. |

## 3.144 service upnp

**Description**

Enable [UPnP](#) service.

Command with **no** prefix stops the service.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

No

**Synopsis**

```
(config)> service upnp
```

```
(config)> no service upnp
```

**History**

| Version | Description                                          |
|---------|------------------------------------------------------|
| 2.00    | The <b>service upnp</b> command has been introduced. |

## 3.145 service vpn-server

**Description**

Enable VPN server.

Command with **no** prefix stops the service.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

No

**Synopsis**

```
(config)> service vpn-server
```

```
(config)> no service vpn-server
```

**Example**

```
(config)> service vpn-server
VpnServer::Manager: Service enabled.
```

```
(config)> no service vpn-server
VpnServer::Manager: Service disabled.
```

**History**

| Version | Description                                                |
|---------|------------------------------------------------------------|
| 2.04    | The <b>service vpn-server</b> command has been introduced. |

## 3.146 show

**Description** Access to a group of commands to display various diagnostic information about system. All commands of this group do not change system settings.

**Prefix no** No

**Change settings** No

**Multiple input** No

**Group entry** (show)

**Synopsis** (config)> **show**

**History**

| Version | Description                                  |
|---------|----------------------------------------------|
| 2.00    | The <b>show</b> command has been introduced. |

### 3.146.1 show acme

**Description** Show [ACME](#) client status.

**Prefix no** No

**Change settings** No

**Multiple input** No

**Synopsis** (show)> **acme**

**Example**

```
(show)> acme
acme:
    real-time: yes
    ndns-domain: mytest.keenetic.pro
    ndns-domain-acme: yes
    ndns-domain-error: no
    default-domain: cc6b5a71a7644903b51a5454.keenetic.io
    account-pending: no
    account-running: no
    get-pending: no
    get-running: no
    revoke-pending: no
    revoke-running: no
    reissue-queue-size: 0
    revoke-queue-size: 0
```

```

retries: 0
checker-timer: 82499
apply-timer: 0
acme-account: 36902346

```

**History**

| Version | Description                                       |
|---------|---------------------------------------------------|
| 2.11    | The <b>show acme</b> command has been introduced. |

## 3.146.2 show associations

**Description** Show list of wireless stations associated with an access point. If you use no argument, the entire list of wireless stations will be displayed.

**Prefix no** No

**Change settings** No

**Multiple input** No

**Interface type** Access Point

**Synopsis** (show)> **associations** [ <name> ]

**Arguments**

| Argument | Value         | Description                                                                                                           |
|----------|---------------|-----------------------------------------------------------------------------------------------------------------------|
| name     | <i>String</i> | An access point name. You can see the list of available access points with help of <b>associations</b> [Tab] command. |

**Example**

```
(show)> associations [Tab]
```

```
Usage template:
  associations [{name}]
```

```
Choose:
WifiMaster0/AccessPoint2
WifiMaster1/AccessPoint1
WifiMaster0/AccessPoint3
WifiMaster0/AccessPoint0
AccessPoint
WifiMaster1/AccessPoint2
WifiMaster0/AccessPoint1
GuestWiFi
WifiMaster1/AccessPoint3
WifiMaster1/AccessPoint0
AccessPoint_5G
```

```
(show)> associations WifiMaster0/AccessPoint0
```

```

station:
    mac: ec:1f:72:d3:6d:3f
    ap: WifiMaster0/AccessPoint0
authenticated: 1
txrate: 130
uptime: 3804
txbytes: 2058837
rxbytes: 25023483
ht: 20
mode: 11n
gi: 800
rssi: -26
mcs: 15

station:
    mac: 20:aa:4b:5c:09:0e
    ap: WifiMaster0/AccessPoint0
authenticated: 1
txrate: 270
uptime: 19662
txbytes: 19450396
rxbytes: 70800065
ht: 40
mode: 11n
gi: 800
rssi: -41
mcs: 15

```

History

| Version | Description                                               |
|---------|-----------------------------------------------------------|
| 2.00    | The <b>show associations</b> command has been introduced. |

### 3.146.3 show button

**Description** Show information about specified system button. If you use no argument, the entire list of all buttons on the device will be displayed. Available buttons depend on hardware configuration.

**Prefix no** No

**Change settings** No

**Multiple input** No

**Synopsis** (show)> **button** [*<name>*]

Arguments

| Argument | Value         | Description      |
|----------|---------------|------------------|
| name     | <i>String</i> | The button name. |

**Example**

```
(show)> button FN1

buttons:
  button, name = FN1:
    is_switch: no
    position: 2
  position_count: 2
    clicks: 0
    elapsed: 0
    hold_delay: 3000
```

**History**

| Version | Description                                         |
|---------|-----------------------------------------------------|
| 2.00    | The <b>show button</b> command has been introduced. |

## 3.146.4 show button bindings

**Description**

Show a list of actions associated with device buttons.

**Prefix no**

No

**Change settings**

No

**Multiple input**

No

**Synopsis**

```
(show)> button bindings
```

**Example**

```
(show)> button bindings

bindings:

  binding, index = 0:
    button: RESET
    action: click
  active_handler: Reboot
  default_handler: Reboot
    protected: yes

  binding, index = 1:
    button: RESET
    action: hold
  active_handler: FactoryReset
  default_handler: FactoryReset
    protected: yes

  binding, index = 2:
    button: WLAN
    action: click
  active_handler: WpsStartMainAp
  default_handler: WpsStartMainAp
    protected: no
```



```
binding, index = 3:
    button: WLAN
    action: double-click
active_handler: WpsStartMainAp5
default_handler: WpsStartMainAp5
protected: no

binding, index = 4:
    button: WLAN
    action: hold
active_handler: WifiToggle
default_handler: WifiToggle
protected: no

binding, index = 5:
    button: FN1
    action: click
active_handler: UnmountUsb1
default_handler: UnmountUsb1
protected: no

binding, index = 6:
    button: FN1
    action: double-click
active_handler:
default_handler:
protected: no

binding, index = 7:
    button: FN1
    action: hold
active_handler:
default_handler:
protected: no

binding, index = 8:
    button: FN2
    action: click
active_handler: UnmountUsb2
default_handler: UnmountUsb2
protected: no

binding, index = 9:
    button: FN2
    action: double-click
active_handler:
default_handler:
protected: no

binding, index = 10:
    button: FN2
    action: hold
active_handler:
```

```
default_handler:
protected: no
```

**History**

| Version | Description                                                  |
|---------|--------------------------------------------------------------|
| 2.03    | The <b>show button bindings</b> command has been introduced. |

## 3.146.5 show button handlers

**Description** Show a list of available button handlers in the system.

**Prefix no** No

**Change settings** No

**Multiple input** No

**Synopsis** (show)> **button handlers**

**Example**

```
(show)> button handlers

handlers:
  handler, name = LedToggle:
short_description: toggle system LED states
  protected: no
  switch_related: no

  handler, name = FactoryReset:
short_description: reset a configuration to factory ►
defaults
  protected: yes
  switch_related: no

  handler, name = UnmountUsb1:
short_description: unmount USB 1 port storages
  protected: no
  switch_related: no

  handler, name = UnmountUsb2:
short_description: unmount USB 2 port storages
  protected: no
  switch_related: no

  handler, name = Reboot:
short_description: reboot the system
  protected: yes
  switch_related: no

  handler, name = DlnaDirectoryRescan:
short_description: rescan DLNA directory for newer media ►
```

```

files
    protected: no
    switch_related: no

    handler, name = DlnaDirectoryFullRescan:
short_description: remove a DLNA database and rescan a ►
DLNA directory
    protected: no
    switch_related: no

    handler, name = DectHandsetRegistrationToggle:
short_description: toggle a DECT handset registration
    protected: no
    switch_related: no

    handler, name = DectHandsetPagingToggle:
short_description: toggle a DECT handset paging
    protected: no
    switch_related: no

    handler, name = OpkgRunScript:
short_description: run Opkg script
    protected: no
    switch_related: no

    handler, name = TorrentAltSpeedToggle:
short_description: toggle a Torrent alternative speed ►
mode
    protected: no
    switch_related: no

    handler, name = TorrentClientStateToggle:
short_description: toggle a Torrent client state
    protected: no
    switch_related: no

    handler, name = WifiToggle:
short_description: on/off all Wi-Fi interfaces
    protected: no
    switch_related: no

    handler, name = WpsStartMainAp:
short_description: start WPS (2.4 GHz main access point)
    protected: no
    switch_related: no

    handler, name = WpsStartMainAp5:
short_description: start WPS (5 GHz main access point)
    protected: no
    switch_related: no

    handler, name = WifiGuestApToggle:
short_description: toggle a guest access point state ►
(2.4 GHz)

```

```

        protected: no
        switch_related: no

        handler, name = WpsStartStation:
        short_description: start WPS (2.4 GHz Wi-Fi station)
        protected: no
        switch_related: no

        handler, name = WpsStartStation5:
        short_description: start WPS (5 GHz Wi-Fi station)
        protected: no
        switch_related: no

```

**History**

| Version | Description                                                  |
|---------|--------------------------------------------------------------|
| 2.03    | The <b>show button handlers</b> command has been introduced. |

## 3.146.6 show chilli profiles

**Description** Show the list of available [RADIUS](#) server profiles.

**Prefix no** No

**Change settings** No

**Multiple input** No

**Synopsis** (show)> **chilli profiles**

**Example** (show)> **chilli profiles**

```

        profile:
            name: Iron Wi-Fi
            url: https://www.ironwifi.com/
            description: Hosted RADIUS and Captive Portal

        preset:
            uamserver: ►
https://europe-west3.ironwifi.com/api/pages/uam/

        radius:
            server1: 35.198.88.176

        radiuslocationid:

        dns:
            dns1: 8.8.8.8
            dns2: 8.8.4.4

        custom: uamsecret

```

```
custom: radiussecret
```

```
custom: radiusnasid
```

**History**

| Version | Description                                                  |
|---------|--------------------------------------------------------------|
| 2.10    | The <b>show chilli profiles</b> command has been introduced. |

## 3.146.7 show clock date

**Description** Show the current system date.

**Prefix no** No

**Change settings** No

**Multiple input** No

**Synopsis** (show)> **clock date**

**Example**

```
(show)> clock date

weekday: 4
  day: 18
  month: 1
  year: 2018
  hour: 8
  min: 46
  sec: 2
  msec: 660
  dst: inactive

  tz:
    locality: GMT
    stdoffset: 0
    dstoffset: 0
    usesdst: no
    rule: GMT0
    custom: no
```

**History**

| Version | Description                                             |
|---------|---------------------------------------------------------|
| 2.00    | The <b>show clock date</b> command has been introduced. |

## 3.146.8 show clock timezone-list

**Description** Show the list of available timezones.

**Prefix no** No

**Change settings** No

**Multiple input** No

**Synopsis** `(show)> clock timezone-list`

**Example** `(show)> clock timezone-list`

```
timezones:
  tz:
    locality: Adak
    stdoffset: -36000
    dstoffset: -32400
  tz:
    locality: Aden
    stdoffset: 10800
    dstoffset: -1
  tz:
    locality: Almaty
    stdoffset: 21600
    dstoffset: -1
  tz:
    locality: Amsterdam
    stdoffset: 3600
    dstoffset: 7200
  tz:
    locality: Anadyr
    stdoffset: 43200
    dstoffset: -1
```

```
...
...
...
```

**History**

| Version | Description                                                      |
|---------|------------------------------------------------------------------|
| 2.00    | The <b>show clock timezone-list</b> command has been introduced. |

## 3.146.9 show components status

**Description** Display components updates status.

**Prefix no** No

**Change settings** No

**Multiple input** No

**Synopsis** `(show)> component status`

**Example**

```
(show)> components status
```

```
    update:
      state: idle
```

```
(show)> components status
```

```
    update:
      state: running
      progress: 41
```

**History**

| Version | Description                                                    |
|---------|----------------------------------------------------------------|
| 4.00    | The <b>show components status</b> command has been introduced. |

## 3.146.10 show configurator status

**Description**

Show information about system configurator.

**Prefix no**

No

**Change settings**

No

**Multiple input**

No

**Synopsis**

```
(show)> configurator status
```

**Example**

```
(show)> configurator status
```

```
touch: Thu, 18 Oct 2018 14:37:25 GMT
```

```
    header, name = Model: Keenetic Giga
```

```
    header, name = Version: 2.06.1
```

```
    header, name = Agent: http/rci
```

```
    header, name = Last change: Thu, 18 Oct 2018 14:37:25 GMT
```

```
serving:
```

```
    name: Session /var/run/ndm.core.socket
    time: 0.000397
```

```
    request, host = 192.168.1.42, name = admin:
      parse: show configurator status
```

**History**

| Version | Description                                                      |
|---------|------------------------------------------------------------------|
| 2.06    | The <b>show configurator status</b> command has been introduced. |

## 3.146.11 show credits

**Description**

Show the license information about specified installed package in KeeneticOS. If you use no argument, the entire list of all installed packages on the device will be displayed.

**Prefix no**

No

**Change settings**

No

**Multiple input**

No

**Synopsis**

```
(show)> credits [ <package> ]
```

**Arguments**

| Argument | Value         | Description   |
|----------|---------------|---------------|
| package  | <i>String</i> | Package name. |

**Example**

```
(show)> credits

package:
  name: accel-ppp
  title: High performance accel-ppp VPN server
  homepage: https://accel-ppp.org/

package:
  name: accel-ppp-l2tp
  title: L2TP plugin for accel-ppp
  homepage: https://accel-ppp.org/

package:
  name: accel-ppp-pptp
  title: PPTP plugin for accel-ppp
  homepage: https://accel-ppp.org/

package:
  name: accel-ppp-sstp
  title: SSTP plugin for accel-ppp
  homepage: https://accel-ppp.org/

package:
  name: avahi-daemon
  title: An mDNS/DNS-SD implementation (daemon)
  homepage: http://www.avahi.org/

package:
  name: coova-chilli
```



```

        title: Wireless LAN HotSpot controller (Coova ►
Chilli Version)
        homepage: http://www.coova.org/CoovaChilli

        package:
            name: crconf
            title: Netlink-based CryptoAPI userspace ►
management utility
            homepage:

        package:
            name: dhcpv6
            title: DHCPv6 client + server
            homepage: http://wide-dhcpv6.sourceforge.net/

        package:
            name: dropbear
            title: Small SSH2 client/server
            homepage: http://matt.ucc.asn.au/dropbear/

        package:
            name: iperf3-ssl
            title: Internet Protocol bandwidth measuring ►
tool with iperf_auth support
            homepage: https://github.com/esnet/iperf

        package:
            name: kernel
            title: Linux kernel
            homepage: http://www.kernel.org/

        package:
            name: kmod-ipt-account
            title: ACCOUNT netfilter module
            homepage:

        package:
            name: kmod-ipt-chaos
            title: CHAOS netfilter module
            homepage:

        package:
            name: kmod-ipt-compat-xtables
            title: API compatibilty layer netfilter module
            homepage:

        package:
            name: kmod-ipt-condition
            title: Condition netfilter module
            homepage:

        package:
            name: kmod-ipt-delude
            title: DELUDE netfilter module

```

```
homepage:

package:
  name: kmod-ipt-dhcpmac
  title: DHCPMAC netfilter module
homepage:

package:
  name: kmod-ipt-dnetmap
  title: DNETMAP netfilter module
homepage:

package:
  name: kmod-ipt-fuzzy
  title: fuzzy netfilter module
homepage:

package:
  name: kmod-ipt-geoip
  title: geoip netfilter module
homepage:

package:
  name: kmod-ipt-iface
  title: iface netfilter module
homepage:

package:
  name: kmod-ipt-ipmark
  title: IPMARK netfilter module
homepage:

package:
  name: kmod-ipt-ipp2p
  title: IPP2P netfilter module
homepage:

package:
  name: kmod-ipt-ipv4options
  title: ipv4options netfilter module
homepage:

package:
  name: kmod-ipt-length2
  title: length2 netfilter module
homepage:

package:
  name: kmod-ipt-logmark
  title: LOGMARK netfilter module
homepage:

package:
  name: kmod-ipt-lscan
```

```

        title: lscan netfilter module
        homepage:

package:
    name: kmod-ipt-netflow
    title: Netflow netfilter module for Linux kernel
    homepage: http://ipt-netflow.sourceforge.net/

package:
    name: kmod-ipt-psd
    title: psd netfilter module
    homepage:

package:
    name: kmod-ipt-quota2
    title: quota2 netfilter module
    homepage:

package:
    name: kmod-ipt-sysrq
    title: SYSRQ netfilter module
    homepage:

package:
    name: kmod-ipt-tarpit
    title: TARPIT netfilter module
    homepage:

package:
    name: kmod-nf-nathelper-rtsp
    title: RTSP Conntrack and NAT helpers
    homepage: https://github.com/maru-sama/rtsp-linux

package:
    name: kmod-wireguard
    title: WireGuard kernel module
    homepage:

package:
    name: libattr
    title: Extended attributes (xattr) manipulation ▶
library    homepage: http://savannah.nongnu.org/projects/attr

package:
    name: libav
    title: This package contains Libav library
    homepage: https://libav.org/

package:
    name: libavahi
    title: An mDNS/DNS-SD implementation (No D-Bus)
    homepage: http://www.avahi.org/

```

```

package:
  name: libcurl
  title: A client-side URL transfer library
  homepage: http://curl.haxx.se/

package:
  name: libdaemon
  title: A lightweight C library that eases the ▶
writing of UNIX daemons
  homepage: ▶
http://0pointer.de/lennart/projects/libdaemon/

package:
  name: libdb47
  title: Berkeley DB library (4.7)
  homepage: http://www.sleepycat.com/products/db.shtml

package:
  name: libevent
  title: Event notification library
  homepage: http://www.monkey.org/~provos/libevent/

package:
  name: libexif
  title: Library for JPEG files with EXIF tags
  homepage: https://libexif.github.io

package:
  name: libexpat
  title: An XML parsing library
  homepage: https://libexpat.github.io/

package:
  name: libgcrypt
  title: GNU crypto library
  homepage: ▶
http://directory.fsf.org/security/libgcrypt.html

package:
  name: libgpg-error
  title: GnuPG error handling helper library
  homepage: ▶
http://www.gnupg.org/related_software/libgpg-error/

package:
  name: libid3tag
  title: An ID3 tag manipulation library
  homepage: https://www.underbit.com/products/mad/

package:
  name: libjpeg
  title: The Independent JPEG Group's JPEG runtime ▶
library
  homepage: http://www.ijg.org/

```

```

package:
  name: liblzo
  title: A real-time data compression library
  homepage: http://www.oberhumer.com/opensource/lzo/

package:
  name: libnghttp2
  title: Library implementing the framing layer ▶
of HTTP/2
  homepage: https://nghttp2.org/

package:
  name: libopenssl
  title: Open source SSL toolkit (libraries ▶
(libcrypto.so, libssl.so))
  homepage: http://www.openssl.org/

package:
  name: libpcap
  title: Low-level packet capture library
  homepage: http://www.tcpdump.org/

package:
  name: libtommath
  title: A free number theoretic multiple-precision ▶
integer library
  homepage: https://www.libtom.net/

package:
  name: libusb
  title: A library for accessing Linux USB devices
  homepage: http://libusb.info/

package:
  name: mini_snmpd
  title: Lightweight SNMP daemon
  homepage: http://troglobit.github.io/mini-snmpd.html

package:
  name: minidlna
  title: UPnP A/V & DLNA Media Server
  homepage: http://minidlna.sourceforge.net/

package:
  name: miniupnpd
  title: Lightweight UPnP daemon
  homepage: http://miniupnp.tuxfamily.org/

package:
  name: netatalk
  title: netatalk
  homepage: http://netatalk.sourceforge.net

```

```
package:
  name: nginx
  title: Nginx web server
  homepage: http://nginx.org/

package:
  name: nginx-stream-module
  title: Nginx stream module
  homepage:

package:
  name: openvpn
  title: Open source VPN solution using OpenSSL
  homepage: http://openvpn.net

package:
  name: pjproject
  title: PJSIP
  homepage: http://www.pjsip.org/

package:
  name: pureftpd
  title: FTP server
  homepage: http://www.pureftpd.org

package:
  name: radvd
  title: Router advertisement daemon
  homepage: http://www.litech.org/radvd/

package:
  name: sstp-client
  title: SSTP client for Linux
  homepage: http://sstp-client.sourceforge.net/

package:
  name: strongswan
  title: Strongswan IKEv1/IKEv2 ISAKMP and IPsec ▶
suite
  homepage: https://www.strongswan.org/

package:
  name: transmission-daemon
  title: A free, lightweight BitTorrent client
  homepage: http://www.transmissionbt.com

package:
  name: tspc
  title: TSP client
  homepage: http://www.broker.ipv6.ac.uk

package:
  name: tzdata
  title: Timezone data files
```

```

homepage: https://www.iana.org/time-zones

package:
  name: udpxy
  title: Convert UDP IPTV streams into HTTP stream
  homepage: http://sourceforge.net/projects/udpxy

package:
  name: zlib
  title: Library implementing the deflate ►
compression method
  homepage: http://www.zlib.net/

```

```
(show)> credits nginx
```

```

copying: /*
        * Copyright (C) 2002-2019 Igor Sysoev
        * Copyright (C) 2011-2019 Nginx, Inc.
        * All rights reserved.
        *
        * Redistribution and use in source and binary ►
forms, with or without
        * modification, are permitted provided that ►
the following conditions
        * are met:
        * 1. Redistributions of source code must ►
retain the above copyright
        * notice, this list of conditions and the ►
following disclaimer.
        * 2. Redistributions in binary form must ►
reproduce the above copyright
        * notice, this list of conditions and the ►
following disclaimer in the
        * documentation and/or other materials ►
provided with the distribution.
        *
        * THIS SOFTWARE IS PROVIDED BY THE AUTHOR AND ►
CONTRIBUTORS ``AS IS'' AND
        * ANY EXPRESS OR IMPLIED WARRANTIES, ►
INCLUDING, BUT NOT LIMITED TO, THE
        * IMPLIED WARRANTIES OF MERCHANTABILITY AND ►
FITNESS FOR A PARTICULAR PURPOSE
        * ARE DISCLAIMED. IN NO EVENT SHALL THE ►
AUTHOR OR CONTRIBUTORS BE LIABLE
        * FOR ANY DIRECT, INDIRECT, INCIDENTAL, ►
SPECIAL, EXEMPLARY, OR CONSEQUENTIAL
        * DAMAGES (INCLUDING, BUT NOT LIMITED TO, ►
PROCUREMENT OF SUBSTITUTE GOODS
        * OR SERVICES; LOSS OF USE, DATA, OR PROFITS; ►
OR BUSINESS INTERRUPTION)
        * HOWEVER CAUSED AND ON ANY THEORY OF ►
LIABILITY, WHETHER IN CONTRACT, STRICT
        * LIABILITY, OR TORT (INCLUDING NEGLIGENCE ►
OR OTHERWISE) ARISING IN ANY WAY

```

```
* OUT OF THE USE OF THIS SOFTWARE, EVEN IF ►
ADVISED OF THE POSSIBILITY OF
* SUCH DAMAGE.
*/
```

**History**

| Version | Description                                          |
|---------|------------------------------------------------------|
| 3.01    | The <b>show credits</b> command has been introduced. |

## 3.146.12 show crypto ike key

**Description** Show info about selected *IKE* key. If you use no argument, the entire list of *IKE* keys will be displayed.

**Prefix no** No

**Change settings** No

**Multiple input** No

**Synopsis** (show)> **crypto ike key** [*name*]

**Arguments**

| Argument | Value         | Description                      |
|----------|---------------|----------------------------------|
| name     | <i>String</i> | Name of selected <i>IKE</i> key. |

**Example**

```
(show)> crypto ike key

IpSec:
  ike_key, name = test:
    type: address
    id: 10.10.10.10

  ike_key, name = test2:
    type: any
    id: ►
```

**History**

| Version | Description                                                 |
|---------|-------------------------------------------------------------|
| 2.06    | The <b>show crypto ike key</b> command has been introduced. |

## 3.146.13 show crypto map

**Description** Show info about selected *IPsec* crypto map. If you use no argument, the entire list of *IPsec* crypto maps will be displayed.

**Prefix no** No

**Change settings** No



**Multiple input** No

**Synopsis** (show)> **crypto map** *[map-name]*

**Arguments**

| Argument | Value         | Description                  |
|----------|---------------|------------------------------|
| map-name | <i>String</i> | Name of selected crypto map. |

**Example**

```
(show)> crypto map test

IpSec:
crypto_map, name = test:
  config:
    remote_peer: ipsec.example.com
    crypto_ipsec_profile_name: prof1
    mode: tunnel

    local_network:
      net: 172.16.200.0
      mask: 24
      protocol: IPv4

    remote_network:
      net: 172.16.201.0
      mask: 24
      protocol: IPv4

    status:
      primary_peer: true

    phase1:
      name: test
      unique_id: 572
      ike_state: ESTABLISHED
      establish_time: 1451301596
      rekey_time: 0
      reauth_time: 1451304277
      local_addr: 10.10.10.15
      remote_addr: 10.10.10.20
      ike_version: 2
      local_spi: 00a6ebfc9d90f1c2
      remote_spi: 3cd201ef496df75c
      local_init: yes
      ike_cypher: aes-cbc-256
      ike_hmac: sha1
      ike_dh_group: 2

    phase2_sa_list:
      phase2_sa, index = 0:
        unique_id: 304
        request_id: 185
        sa_state: INSTALLED
```

```

mode: TUNNEL
protocol: ESP
encapsulation: yes
local_spi: ca59bfcf
remote_spi: cde23d83
ipsec_cypher: esp-aes-256
ipsec_hmac: esp-sha1-hmac
ipsec_dh_group:
in_bytes: 7152
in_packets: 115
in_time: 1451302507
out_bytes: 6008
out_packets: 98
out_time: 1451302507
rekey_time: 1451305159
local_ts: 172.16.200.0/24
remote_ts: 172.16.201.0/24

state: PHASE2_ESTABLISHED

```

**History**

| Version | Description                                             |
|---------|---------------------------------------------------------|
| 2.06    | The <b>show crypto map</b> command has been introduced. |

## 3.146.14 show defaults

**Description** Show the general default wireless and system parameters.

**Prefix no** No

**Change settings** No

**Multiple input** No

**Synopsis** (show)> **defaults**

**Example** (show)> **defaults**

```

servicetag: *****92181
servicehost: ndss.*.*
servicepass: *****
wlanssid: Keenetic-0000
wlankey: *****
wlanwps: *****
country: EA
ndmhwid: KN-3710
product: Giga
ctrlsum: a*****a4096b06a0f178abab3f2647d
serial: S****WF*****
signature: valid

```

```
integrity: ok
locked: yes
```

**History**

| Version | Description                                           |
|---------|-------------------------------------------------------|
| 2.00    | The <b>show defaults</b> command has been introduced. |

## 3.146.15 show dns-proxy

**Description** Show a list of current *DNS over TLS* and *DNS over HTTPS* servers.

**Prefix no** No

**Change settings** No

**Multiple input** No

**Synopsis** (show)> **dns-proxy**

**Example**

```
(show)> dns-proxy

    proxy-status:
        proxy-name: System

    proxy-config:

rpc_port = 54321
rpc_ttl = 10000
rpc_wait = 10000
timeout = 7000
proceed = 500
stat_file = /var/ndnproxymain.stat
stat_time = 10000
dns_server = 127.0.0.1:40500 .
dns_server = 127.0.0.1:40501 .
dns_server = 127.0.0.1:40508 .
dns_server = 127.0.0.1:40509 .
static_a = my.keenetic.net 78.47.125.180
static_a = cc6b5a71a7644903b51a5454.keenetic.io 78.47.125.180
static_a = myhome23.keenetic.pro 78.47.125.180
set-profile-ip 127.0.0.1 0
set-profile-ip ::1 0
dns_tcp_port = 53
dns_udp_port = 53

    proxy-stat:

# ndnproxy statistics file

Total incoming requests: 809
Proxy requests sent:      659
```

```

Cache hits ratio:      0.192 (155)
Memory usage:         44.41K

DNS Servers

Med.Resp  Avg.Resp  Ip    Port  R.Sent  A.Rcvd  NX.Rcvd  ►
Rank
127.0.0.1 40500    2      2      0      ►
40ms      40ms     10
127.0.0.1 40501   652    651    0      ►
17ms      17ms     10
127.0.0.1 40508    2      0      0      ►
0ms       0ms      4
127.0.0.1 40509    3      1      0      ►
326ms     326ms    3

    proxy-safe:

        proxy-tls:
        server-tls:
            address: 1.1.1.1
            port: 853
            sni: cloudflare-dns.com
            spki:
            interface:

        server-tls:
            address: 8.8.8.8
            port: 853
            sni: dns.google.com
            spki:
            interface:

    proxy-tls-filters:

    proxy-https:
    server-https:
        uri: https://dns.adguard.com/dns-query
        format: dns
        spki:
        interface:

    server-https:
        uri: ►
https://cloudflare-dns.com/dns-query?ct=application/dns-json
        format: json
        spki:
        interface:

    proxy-https-filters:

```

**History**

| Version | Description                                            |
|---------|--------------------------------------------------------|
| 3.01    | The <b>show dns-proxy</b> command has been introduced. |

## 3.146.16 show dns-proxy filter presets

**Description** Show the list of filtering presets. There is always at least 1 preset, but can be many more.

**Prefix no** No

**Change settings** No

**Multiple input** No

**Synopsis** `(show)> dns-proxy filter presets [ <lang> ]`

**Arguments**

| Argument | Value         | Description                                                                                                                     |
|----------|---------------|---------------------------------------------------------------------------------------------------------------------------------|
| lang     | <i>String</i> | Language to show in “description” and “short-description” fields. If requested lang is absent English version will be returned. |

**Output**

| Element           | Description                                                                  |
|-------------------|------------------------------------------------------------------------------|
| description       | Long readable profile description. Has translation map.                      |
| id                | Short name to be used in <b>dns-proxy</b> commands.                          |
| short-description | Short description to be used in combo-boxes and titles. Has translation map. |
| stale             | Set to true when preset is obsolete and no longer works.                     |

**Example**

```
(show)> dns-proxy filter presets en

version: 4

presets:
  id: opendns-family
  url: ▶
https://www.opendns.com/home-internet-security/
  stale: no
  short-description: OpenDNS - FamilyShield
  description: Blocks domains that are categorized as ▶
Tasteless, Proxy/Anonymizer, Sexuality and Pornography.

presets:
  id: quad9-security
  url: https://quad9.net/home/individuals/
  stale: no
  short-description: Quad9 - Security Protection
```

```

        description: Blocks malicious hostnames to protect ▶
against a wide range of threats such as malware, phishing, ▶
spyware, and botnets. Improves performance in addition to ▶
guaranteeing
                privacy.

        presets:
                id: cleanbrowsing-security
                url: https://cleanbrowsing.org/filters
                stale: no
        short-description: CleanBrowsing - Security Filter
        description: Blocks access to phishing, spam, malware ▶
and malicious domains. Our database of malicious domains is ▶
updated hourly and considered to be one of the best in the ▶
industry.

                Note that it does not block adult content.

        presets:
                id: cleanbrowsing-adult
                url: https://cleanbrowsing.org/filters
                stale: no
        short-description: CleanBrowsing - Adult Filter
        description: Blocks access to all adult, pornographic ▶
and explicit sites. It does not block proxy or VPNs, nor ▶
mixed-content sites. Sites like Reddit are allowed. Google and ▶
Bing are set
                to the Safe Mode. Malicious and Phishing ▶
domains are blocked.

```

**History**

| Version | Description                                                           |
|---------|-----------------------------------------------------------------------|
| 3.08    | The <b>show dns-proxy filter presets</b> command has been introduced. |

**3.146.17 show dns-proxy filter profiles**

**Description** Show the list of filtering profiles.

**Prefix no** No

**Change settings** No

**Multiple input** No

**Synopsis** (show)> **dns-proxy filter profiles**

**Example** (show)> **dns-proxy filter profiles**

```

        profiles:
                id: DnsProfile0
        description: test

```

**History**

| Version | Description                                                            |
|---------|------------------------------------------------------------------------|
| 3.08    | The <b>show dns-proxy filter profiles</b> command has been introduced. |

**3.146.18 show dpn document**

**Description** Show *DPN* agreement text.

**Prefix no** No

**Change settings** No

**Multiple input** No

**Synopsis** `(show)> dpn document [ <version> ] [ <language> ]`

**Arguments**

| Argument | Value         | Description                                                                  |
|----------|---------------|------------------------------------------------------------------------------|
| version  | <i>String</i> | Version of <i>DPN</i> . If not specified, the latest version is shown.       |
| language | <i>String</i> | The language of <i>DPN</i> . If not specified, the English version is shown. |

**Example**

```
(show)> dpn document
20200330

DEVICE PRIVACY NOTICE

Last update 2020-30-03

This End User License Agreement (this "Agreement") constitutes a valid and
binding agreement between Keenetic Limited, including all
affiliates and
subsidiaries ("Keenetic", "us", "our" or "we") and You (as
defined below)
of the Software (as defined below), including the Software
installed onto
any one of our Keenetic products (the "Product") and/or the
Software
legally obtained from or provided by an App Platform (as defined
below)
authorised by Keenetic. Keenetic and You shall be collectively
referred to
as the "Parties", and individually as a "Party".

(show)> dpn document 20200330 es
20200330

CONTRATO DE LICENCIA DEL USUARIO FINAL
```

Última actualización 30/03/2020

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#### History

| Version | Description                                               |
|---------|-----------------------------------------------------------|
| 3.05    | The <b>show dpn document</b> command has been introduced. |

## 3.146.19 show dpn list

**Description** Show the list of *DPN* available in the system.

**Prefix no** No

**Change settings** No

**Multiple input** No

**Synopsis** (show)> **dpn list**

**Example**

```
(show)> dpn list
      dpn:
        version: 20200330

      document:
        lang: de

        format: txt

        format: md

      document:
        lang: en

        format: txt
```



```
format: md
document:
  lang: es
format: txt
format: md
document:
  lang: fr
format: txt
format: md
document:
  lang: it
format: txt
format: md
document:
  lang: pl
format: txt
format: md
document:
  lang: pt
format: txt
format: md
document:
  lang: ru
format: txt
format: md
document:
  lang: sv
format: txt
format: md
document:
  lang: tr
```

```

format: txt

format: md

document:
  lang: uk

format: txt

format: md

```

**History**

| Version | Description                                           |
|---------|-------------------------------------------------------|
| 3.05    | The <b>show dpn list</b> command has been introduced. |

## 3.146.20 show dot1x

**Description**

Show 802.1x client status on the interface. To manage 802.1x client status on the interface authentication must be configured with [interface authentication](#) group of commands.

**Prefix no**

No

**Change settings**

No

**Interface type**

Ethernet

**Multiple input**

No

**Synopsis**

```
(show)> dot1x [ interface ]
```

**Arguments**

| Argument  | Value            | Description                                                                                                                |
|-----------|------------------|----------------------------------------------------------------------------------------------------------------------------|
| interface | <i>Interface</i> | An Ethernet interface name. You can see the list of available Ethernet interfaces with help of <b>dot1x</b> [Tab] command. |

**Example**

```

(show)> dot1x [Tab]

Usage template:
    dot1x [{name}]

Choose:
    GigabitEthernet1
    ISP
    WifiMaster0/AccessPoint2
    WifiMaster1/AccessPoint1
    WifiMaster0/AccessPoint3
    WifiMaster0/AccessPoint0
    AccessPoint

```

```
(show)> dot1x ISP

dot1x:
  id: GigabitEthernet1
  state: CONNECTING
```

History

| Version | Description                                        |
|---------|----------------------------------------------------|
| 2.02    | The <b>show dot1x</b> command has been introduced. |

3.146.21 show drivers

**Description** Show the list of loaded kernel drivers.

**Prefix no** No

**Change settings** No

**Multiple input** No

**Synopsis** (show)> **drivers**

**Example**

```
(show)> drivers

module:
  name: rt2860v2_sta
  size: 546736
  used: 0
  subs: -
module:
  name: rt2860v2_ap
  size: 554192
  used: 2
  subs: -
module:
  name: rndis_host
  size: 5024
  used: 0
  subs: -
module:
  name: dwc_otg
  size: 68416
  used: 0
  subs: -
module:
  name: lm
  size: 1344
  used: 1
  subs: dwc_otg, [permanent]
...
```

```
...
...
```

**History**

| Version | Description                                          |
|---------|------------------------------------------------------|
| 2.00    | The <b>show drivers</b> command has been introduced. |

## 3.146.22 show dyndns updaters

**Description** Show the list of available DynDNS providers.

**Prefix no** No

**Change settings** No

**Multiple input** No

**Synopsis** (show)> **dyndns updaters**

**Example**

```
(show)> dyndns updaters

    updater:
        type: dyndns
        url: https://account.dyn.com/dns/dyndns
        api: http://members.dyndns.org/nic/update

    updater:
        type: noip
        url: https://www.noip.com/
        api: http://dynupdate.no-ip.com/nic/update
```

**History**

| Version | Description                                                  |
|---------|--------------------------------------------------------------|
| 2.12    | The <b>show dyndns updaters</b> command has been introduced. |

## 3.146.23 show easyconfig status

**Description** Show EasyConfig status and settings.

**Prefix no** No

**Change settings** No

**Multiple input** No

**Synopsis** (show)> **easyconfigstatus**

**Example** (show)> **easyconfig status**

```

easyconfig:
    checked: Tue Aug  6 11:50:21 2019
    enabled: yes
    reliable: yes
gateway-accessible: yes
    dns-accessible: yes
    host-accessible: yes
    internet: yes

    gateway:
        interface: GigabitEthernet1
        address: 193.0.175.2
        failures: 0
    accessible: yes
    excluded: no

    hosts:
        host:
            name: google.com
            failures: 0
            resolved: no
            accessible: no

```

**History**

| Version | Description                                                    |
|---------|----------------------------------------------------------------|
| 2.00    | The <b>show easyconfig status</b> command has been introduced. |

## 3.146.24 show eula document

**Description** Show [EULA](#) agreement text.

**Prefix no** No

**Change settings** No

**Multiple input** No

**Synopsis** (show)> **eula document** [ <version> ] [ <language> ]

**Arguments**

| Argument | Value         | Description                                                                            |
|----------|---------------|----------------------------------------------------------------------------------------|
| version  | <i>String</i> | Version of <a href="#">EULA</a> . If not specified, the latest version is shown.       |
| language | <i>String</i> | The language of <a href="#">EULA</a> . If not specified, the English version is shown. |

**Example**

```

(show)> eula document 20181001
20181001
Keenetic LIMITED

```

## End User License Agreement

This End User License Agreement (this “Agreement”) constitutes a valid and binding agreement between Keenetic Limited, including all affiliates and subsidiaries (“Keenetic”, “us”, “our” or “we”) and You (as defined below) of the Software (as defined below), including the Software installed onto any one of our Keenetic products (the “Product”) and/or the Software legally obtained from or provided by an App Platform (as defined below) authorised by Keenetic. Keenetic and You shall be collectively referred to as the “Parties”, and individually as a “Party”.

```
(show)> eula document 20181001 ru
20181001
```

## Keenetic LIMITED

## Лицензионное соглашение с конечным пользователем

Настоящее Лицензионное соглашение с конечным пользователем (настоящее «Соглашение») представляет собой действительное и обязательное соглашение между Keenetic Limited, включая все связанные с ней компании и все её подразделения («Keenetic», «нам», «наш» или «мы»), и Вами (как определено ниже) о Программном обеспечении (как определено ниже), включая Программное обеспечение, устанавливаемое на любом из продуктов производства Keenetic («Продукт») и/или Программное обеспечение, полученное на законных основаниях или предоставленное Магазином Приложений (как определено ниже), авторизованной Keenetic. Keenetic и Вы вместе упоминаетесь как «Стороны», а по отдельности — «Сторона».

## History

| Version | Description                                                |
|---------|------------------------------------------------------------|
| 2.15    | The <b>show eula document</b> command has been introduced. |

## 3.146.25 show eula list

**Description** Show the list of [EULA](#) available in the system.

**Prefix no** No

**Change settings** No

**Multiple input** No

**Synopsis** `(show)> eula list`

**Example**

```
(show)> eula list
    eula:
      version: 20181001

    document:
      lang: en

      format: md

      format: txt

    document:
      lang: ru

      format: md

      format: txt

    document:
      lang: tr

      format: md

      format: txt

    document:
      lang: uk

      format: md

      format: txt
```

**History**

| Version | Description                                            |
|---------|--------------------------------------------------------|
| 2.15    | The <b>show eula list</b> command has been introduced. |

# 3.146.26 show interface

|                        |                                                                                                                               |
|------------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Description</b>     | Show information of specified interface. If you use no argument, the entire list of all network interfaces will be displayed. |
| <b>Prefix no</b>       | No                                                                                                                            |
| <b>Change settings</b> | No                                                                                                                            |
| <b>Multiple input</b>  | No                                                                                                                            |
| <b>Interface type</b>  | IP                                                                                                                            |
| <b>Synopsis</b>        | <div> <div></div> <div>(show)&gt;    <b>interface</b> &lt;name&gt;</div> </div>                                               |

**Arguments**

| Argument | Value            | Description                                        |
|----------|------------------|----------------------------------------------------|
| name     | <i>Interface</i> | Full name or an alias of the interface to display. |

**Example****Example 3.1. Review the status of switch ports**

The command **show interface** displays different information depending on the interface type. In particular, for GigabitEthernet0 switch it shows current state of physical ports, speed and duplex, on top of general information.

```
(config)> show interface GigabitEthernet0
```

```
        id: GigabitEthernet0
        index: 0
        type: GigabitEthernet
    description:
interface-name: GigabitEthernet0
    link: up
    connected: yes
    state: up
    mtu: 1500
    tx-queue: 2000
```

```
    port, name = 1:
        id: GigabitEthernet0/0
        index: 0
    interface-name: 1
        type: Port
        link: up
        speed: 1000
        duplex: full
    auto-negotiation: on
    flow-control: on
        eee: off
    last-change: 4578.185413
    last-overflow: 0
    public: no
```

```
    port, name = 2:
        id: GigabitEthernet0/1
        index: 1
    interface-name: 2
        type: Port
        link: down
    last-change: 4590.205656
    last-overflow: 0
    public: no
```

```
    port, name = 3:
        id: GigabitEthernet0/2
        index: 2
    interface-name: 3
```



```

        type: Port
        link: up

        role, for = GigabitEthernet0/Vlan2: inet

        speed: 100
        duplex: full
    auto-negotiation: on
        flow-control: off
        eee: off
        last-change: 4570.078144
        last-overflow: 0
        public: yes

        port, name = 4:
            id: GigabitEthernet0/3
            index: 3
        interface-name: 4
            type: Port
            link: down
            last-change: 4590.202571
            last-overflow: 0
            public: no

```

**History**

| Version | Description                                            |
|---------|--------------------------------------------------------|
| 2.00    | The <b>show interface</b> command has been introduced. |

## 3.146.27 show interface bridge

**Description** Display interface bridge status.

**Prefix no** No

**Change settings** No

**Multiple input** No

**Interface type** Bridge

**Synopsis** (show)> **interface** *<name>* **bridge**

**Arguments**

| Argument | Value            | Description                                        |
|----------|------------------|----------------------------------------------------|
| name     | <i>Interface</i> | Full name or an alias of the interface to display. |

**Output**

| Element   | Value           |
|-----------|-----------------|
| members   | Root node.      |
| interface | Interface name. |

| Element   | Value                     |
|-----------|---------------------------|
| link      | Link state of interface.  |
| inherited | Attribute of inheritance. |

**Example**

```
(show)> interface Bridge1 bridge

members:
  interface, link = no, inherited = yes:
    WifiMaster0/AccessPoint2
  interface, link = yes: UsbLte0
```

**History**

| Version | Description                                                   |
|---------|---------------------------------------------------------------|
| 2.03    | The <b>show interface bridge</b> command has been introduced. |

## 3.146.28 show interface channel-utilization rrd

**Description** Show specific data from the channel utilization monitor.

**Prefix no** No

**Change settings** No

**Multiple input** No

**Synopsis**

```
(show)> interface <name> channel-utilization rrd <attribute> [
<detail>]
```

**Arguments**

| Argument  | Value            | Description                                                                                     |
|-----------|------------------|-------------------------------------------------------------------------------------------------|
| name      | <i>Interface</i> | Full name or an alias of the Wi-Fi interface.                                                   |
| attribute | load             | Channel load percentage.                                                                        |
|           | valid            | The data is valid.                                                                              |
| detail    | 0                | RRD detalization level 64 x 3-seconds. It is used by default if the parameter is not specified. |
|           | 1                | RRD detalization level 64 x 1-minutes.                                                          |
|           | 2                | RRD detalization level 64 x 3-minutes.                                                          |
|           | 3                | RRD detalization level 64 x 30-minutes.                                                         |

**Example**

```
(show)> interface WifiMaster1 channel-utilization rrd load 1

data:
  t: 578928.500000
  v: 0
```

```
data:
    t: 578868.500000
    v: 1

data:
    t: 578808.500000
    v: 1

data:
    t: 578748.500000
    v: 2

data:
    t: 578688.500000
    v: 1

data:
    t: 578628.500000
    v: 0

data:
    t: 578568.500000
    v: 1

data:
    t: 578508.500000
    v: 1

data:
    t: 578448.500000
    v: 1

data:
    t: 578388.500000
    v: 0

data:
    t: 578328.500000
    v: 1

data:
    t: 578268.500000
    v: 1

data:
    t: 578208.500000
    v: 1

data:
    t: 578148.500000
    v: 6

data:
```

```

t: 578088.500000
v: 1

data:
t: 578028.500000
v: 11

```

**History**

| Version | Description                                                                    |
|---------|--------------------------------------------------------------------------------|
| 3.09    | The <b>show interface channel-utilization rrd</b> command has been introduced. |

## 3.146.29 show interface channels

**Description** Show information about the specified wireless interface channels.

**Prefix no** No

**Change settings** No

**Multiple input** No

**Interface type** Radio

**Synopsis**

```
(show)> interface <name> channels
```

**Arguments**

| Argument | Value            | Description                                        |
|----------|------------------|----------------------------------------------------|
| name     | <i>Interface</i> | Full name or an alias of the interface to display. |

**Output**

| Element        | Value                                   |
|----------------|-----------------------------------------|
| channels       | Root node.                              |
| channel, index | Record number in the list.              |
| number         | Channel number.                         |
| ext-40-above   | Ability to expand channel above.        |
| ext-40-below   | Ability to expand channel below.        |
| vht-80         | Ability to expand channel up to 80 MHz. |

**Example**

```

(show)> interface WifiMaster0 channels

channels:
  channel, index = 0:
    number: 1
    ext-40-above: yes
    ext-40-below: no
    vht-80: yes

```

```

channel, index = 1:
    number: 2
ext-40-above: yes
ext-40-below: yes
    vht-80: yes

channel, index = 2:
    number: 3
ext-40-above: yes
ext-40-below: yes
    vht-80: yes

channel, index = 3:
    number: 4
ext-40-above: yes
ext-40-below: yes
    vht-80: yes

channel, index = 4:
    number: 5
ext-40-above: yes
ext-40-below: yes
    vht-80: yes

channel, index = 5:
    number: 6
ext-40-above: yes
ext-40-below: yes
    vht-80: yes

channel, index = 6:
    number: 7
ext-40-above: yes
ext-40-below: yes
    vht-80: yes

channel, index = 7:
    number: 8
ext-40-above: yes
ext-40-below: yes
    vht-80: yes
...
...
...

```

## History

| Version | Description                                                     |
|---------|-----------------------------------------------------------------|
| 2.03    | The <b>show interface channels</b> command has been introduced. |

## 3.146.30 show interface chilli

**Description** Show information about statistics of connected clients to the [RADIUS](#) hotspot.

**Prefix no** No

**Change settings** No

**Multiple input** No

**Synopsis** `(show)> interface <name> chilli`

**Arguments**

| Argument | Value            | Description                             |
|----------|------------------|-----------------------------------------|
| name     | <i>Interface</i> | Full name or an alias of the interface. |

**Example**

```
(show)> interface Chilli0 chilli

      host:
      session-id: 4bf7c55f00000006
        user: 44w3c1
        ip: 10.1.30.3
        mac: 55:a3:f9:51:b4:11
      start-time: 3884
      end-time: 0
      idle-time: 9
idle-time-limit: 0
      tx-bytes: 695682
      tx-bytes-limit: 0
      rx-bytes: 1627453
      rx-bytes-limit: 0
      tx-speed: 0
      tx-speed-limit: 0
      rx-speed: 0
      rx-speed-limit: 0
```

**History**

| Version | Description                                                   |
|---------|---------------------------------------------------------------|
| 2.10    | The <b>show interface chilli</b> command has been introduced. |

## 3.146.31 show interface country-codes

**Description** Show the list of available country codes on a radio interface.

**Prefix no** No

**Change settings** No

**Multiple input** No

**Interface type** Radio

**Synopsis**

```
(show)> interface <name> country-codes
```

**Arguments**

| Argument | Value            | Description                                        |
|----------|------------------|----------------------------------------------------|
| name     | <i>Interface</i> | Full name or an alias of the interface to display. |

**Output**

| Element       | Value         |
|---------------|---------------|
| country-codes | Root node.    |
| code          | Country code. |
| country       | Country name. |

**Example**

```
(show)> interface WifiMaster0 country-codes
```

```
country-codes:
  country-code:
    code: AL
    country: Albania

  country-code:
    code: DZ
    country: Algeria

  country-code:
    code: AR
    country: Argentina

  country-code:
    code: AM
    country: Armenia

  country-code:
    code: AU
    country: Australia
```

```
...
...
...
```

**History**

| Version | Description                                                          |
|---------|----------------------------------------------------------------------|
| 2.03    | The <b>show interface country-codes</b> command has been introduced. |

## 3.146.32 show interface mac

**Description**

Show the table of MAC addresses of the switch.

**Prefix no**

No

**Change settings** No

**Multiple input** No

**Interface type** Switch

**Synopsis** `(show)> interface <name> mac`

**Arguments**

| Argument | Value            | Description                                        |
|----------|------------------|----------------------------------------------------|
| name     | <i>Interface</i> | Full name or an alias of the interface to display. |

**Example**

```
(show)> interface GigabitEthernet0 mac
```

| Port | MAC               | Aging |
|------|-------------------|-------|
| 0    | b0:b2:dc:70:c4:28 | 6     |
| 0    | f0:1b:21:6d:9a:c5 | 4     |
| 0    | 00:0c:43:76:20:77 | 6     |
| 0    | b4:18:d1:6e:b5:6a | 3     |
| 0    | 40:4a:03:78:01:af | 2     |
| 0    | 84:8e:0c:3f:79:05 | 5     |
| 0    | ec:43:f6:73:0a:99 | 6     |
| 0    | ec:43:f6:04:2b:05 | 6     |
| 0    | b2:b2:dc:5f:09:b3 | 1     |
| 0    | ec:43:f6:72:4e:51 | 6     |
| 0    | 00:30:48:93:91:a7 | 6     |
| 0    | f0:c1:f1:95:c3:fb | 5     |
| 0    | b8:ca:3a:8a:c7:43 | 6     |
| 0    | ec:43:f6:da:78:79 | 5     |
| 0    | 10:7b:ef:59:7b:61 | 2     |
| 0    | ec:43:f6:ff:f8:8b | 6     |
| 0    | 58:8b:f3:65:8c:91 | 5     |
| 0    | ec:43:f6:cf:0e:ef | 2     |
| 0    | 00:ee:bd:a1:18:51 | 6     |
| 0    | ec:43:f6:72:4e:69 | 6     |
| 0    | 90:e2:ba:07:9a:81 | 6     |
| 0    | 00:00:5e:00:01:01 | 6     |
| 0    | 00:08:9b:dc:8d:17 | 4     |
| 0    | 50:e5:49:58:2b:5a | 6     |
| 0    | 90:e2:ba:07:99:55 | 6     |
| 0    | ec:43:f6:04:36:8d | 6     |
| 0    | ec:43:f6:05:44:49 | 6     |
| 0    | de:06:21:02:b3:e2 | 6     |
| 0    | 40:4a:03:60:80:05 | 6     |
| 0    | 00:0c:29:d5:84:c0 | 6     |
| 0    | 00:08:9b:dc:92:55 | 6     |
| 0    | 00:08:9b:dc:92:56 | 6     |
| 0    | 00:1b:0c:7f:b6:41 | 6     |
| 0    | 10:2a:b3:a6:86:18 | 5     |
| 0    | 10:7b:ef:df:83:a7 | 1     |



```
0      01:00:5e:00:00:fb      0
.....
```

**History**

| Version | Description                                                |
|---------|------------------------------------------------------------|
| 2.00    | The <b>show interface mac</b> command has been introduced. |

## 3.146.33 show interface name-server

**Description** Show a list of current addresses of DNS resolvers used on the interface.

**Prefix no** No

**Change settings** No

**Multiple input** No

**Synopsis** (show)> **interface** *<name>* **name-server**

**Arguments**

| Argument | Value            | Description                             |
|----------|------------------|-----------------------------------------|
| name     | <i>Interface</i> | Full name or an alias of the interface. |

**Example**

```
(show)> interface WifiMaster1/WifiStation0 name-server
```

```
server:
  address: 1.1.1.1
  port: 0
  domain:
  global: 0
  service: Dns::Manager
interface:

server:
  address: 9.9.9.9
  port: 0
  domain:
  global: 0
  service: Dns::Manager
interface:

server:
  address: 8.8.8.8
  port: 0
  domain:
  global: 0
  service: Dns::Manager
interface:

server:
  address: 192.168.133.1
```

```

        port: 0
        domain:
        global: 65318
        service: WifiMaster1/WifiStation0 DHCP client
        interface: WifiMaster1/WifiStation0

server-tls:
    address: 8.8.8.8
    port: 0
    sni: dns.google
    spki:
    interface:
    domain:

```

**History**

| Version | Description                                                        |
|---------|--------------------------------------------------------------------|
| 3.09    | The <b>show interface name-server</b> command has been introduced. |

## 3.146.34 show interface rf e2p

**Description** Show the current contents of all calibration data cells.

**Prefix no** No

**Change settings** No

**Multiple input** No

**Interface type** Radio

**Synopsis** (show)> **interface** *<name>* **rf e2p**

**Arguments**

| Argument | Value            | Description                                        |
|----------|------------------|----------------------------------------------------|
| name     | <i>Interface</i> | Full name or an alias of the interface to display. |

**Example**

```

(show)> interface WifiMaster0 rf e2p

[0x0000]:5392 [0x0002]:0103 [0x0004]:43EC [0x0006]:04F6
[0x0008]:042B [0x000A]:5392 [0x000C]:1814 [0x000E]:8001
[0x0010]:0000 [0x0012]:5392 [0x0014]:1814 [0x0016]:0000
[0x0018]:0001 [0x001A]:FF6A [0x001C]:0213 [0x001E]:FFFF
[0x0020]:FFFF [0x0022]:FFC1 [0x0024]:9201 [0x0026]:FFFF
[0x0028]:43EC [0x002A]:04F6 [0x002C]:052B [0x002E]:FFFF
[0x0030]:758E [0x0032]:4301 [0x0034]:FF22 [0x0036]:0025
[0x0038]:FFFF [0x003A]:012D [0x003C]:FFFF [0x003E]:FAD9
[0x0040]:88CC [0x0042]:FFFF [0x0044]:FF0A [0x0046]:0000
[0x0048]:0000 [0x004A]:0000 [0x004C]:0000 [0x004E]:FFFF
[0x0050]:FFFF [0x0052]:1111 [0x0054]:1111 [0x0056]:1111

```

```

[0x0058]:1011 [0x005A]:1010 [0x005C]:1010 [0x005E]:1010
[0x0060]:1111 [0x0062]:1211 [0x0064]:1212 [0x0066]:1312
[0x0068]:1313 [0x006A]:1413 [0x006C]:1414 [0x006E]:2264
[0x0070]:00F1 [0x0072]:1133 [0x0074]:0000 [0x0076]:FC62
[0x01E8]:FFFF [0x01EA]:FFFF [0x01EC]:FFFF [0x01EE]:FFFF
[0x01F0]:FFFF [0x01F2]:FFFF [0x01F4]:FFFF [0x01F6]:FFFF
[0x01F8]:FFFF [0x01FA]:FFFF [0x01FC]:FFFF [0x01FE]:FFFF
.....

```

**History**

| Version | Description                                                   |
|---------|---------------------------------------------------------------|
| 2.04    | The <b>show interface rf e2p</b> command has been introduced. |

## 3.146.35 show interface rrd

**Description** Show network interface loading on the principle of Round Robin Database.

**Prefix no** No

**Change settings** No

**Multiple input** No

**Synopsis** (show)> **interface** *<name>* **rrd** *<attribute>* [*<detail>*]

**Arguments**

| Argument  | Value            | Description                             |
|-----------|------------------|-----------------------------------------|
| name      | <i>Interface</i> | Full name or an alias of the interface. |
| attribute | rxspeed          | Value of data rate type.                |
|           | txspeed          |                                         |
| detail    | 0                | Level of detail is 1 second.            |
|           | 1                | Level of detail is 2 seconds.           |
|           | 2                | Level of detail is 3 seconds.           |
|           | 3                | Level of detail is 5 seconds.           |
|           | 4                | Level of detail is 15 seconds.          |
|           | 5                | Level of detail is 30 seconds.          |
|           | 6                | Level of detail is 1 minute.            |
|           | 7                | Level of detail is 2 minutes.           |
|           | 8                | Level of detail is 3 minutes.           |
|           | 9                | Level of detail is 5 minutes.           |
|           | 10               | Level of detail is 15 minutes.          |
|           | 11               | Level of detail is 30 minutes.          |

**Example**

```
(show)> interface GigabitEthernet1 rrd rxspeed
```

```
data:
    t: 90083.990183
    v: 200880
```

```
data:
    t: 90082.990128
    v: 152392
```

```
data:
    t: 90081.990193
    v: 110976
```

```
data:
    t: 90080.990142
    v: 48000
```

```
data:
    t: 90079.990178
    v: 38366
```

```
(show)> interface GigabitEthernet1 rrd txspeed
```

```
data:
    t: 87771.249486
    v: 148202
```

```
data:
    t: 87768.248974
    v: 10694
```

```
data:
    t: 87765.248977
    v: 19070
```

```
data:
    t: 87762.249105
    v: 48909
```

```
data:
    t: 87759.249105
    v: 149277
```

```
(show)> interface GigabitEthernet1 rrd rxspeed 1
```

```
data:
    t: 90176.990054
    v: 164766
```

```
data:
    t: 90174.990061
    v: 121828
```

```

data:
    t: 90172.990052
    v: 95430

data:
    t: 90170.990085
    v: 57559

data:
    t: 90168.990119
    v: 97759

```

**History**

| Version | Description                                                |
|---------|------------------------------------------------------------|
| 2.10    | The <b>show interface rrd</b> command has been introduced. |

**3.146.36 show interface spectrum rrd**

**Description** Show specific data from the spectrum analyzer.

**Prefix no** No

**Change settings** No

**Multiple input** No

**Synopsis**

```
(show)> interface <name> spectrum rrd <channel> <attribute> [<detail>]
```

**Arguments**

| Argument  | Value            | Description                                                                                                       |
|-----------|------------------|-------------------------------------------------------------------------------------------------------------------|
| name      | <i>Interface</i> | Full name or an alias of the Wi-Fi interface.                                                                     |
| channel   | <i>Integer</i>   | Wi-Fi channel number.                                                                                             |
| attribute | load             | Channel load percentage.                                                                                          |
|           | dfs              | DFS enabled.                                                                                                      |
|           | radar            | Radar detected.                                                                                                   |
|           | valid            | The data is valid.                                                                                                |
|           | active           | The channel is used by the selected Wi-Fi radio interface.                                                        |
| detail    | 0                | RRD detalization level 64 x 1-minute. This value is used by default if the parameter is not specified explicitly. |
|           | 1                | RRD detalization level 64 x 3-minutes.                                                                            |
|           | 2                | RRD detalization level 64 x 30-minutes.                                                                           |

**Example**

```
(show)> interface WifiMaster1 spectrum rrd 36 active
data:
```

```
t: 976.500000
v: 1

data:
t: 916.500000
v: 1

data:
t: 856.500000
v: 0

data:
t: 796.500000
v: 0

data:
t: 736.500000
v: 0

data:
t: 676.500000
v: 0

data:
t: 616.500000
v: 0

data:
t: 556.500000
v: 0

data:
t: 496.500000
v: 0

data:
t: 436.500000
v: 0

data:
t: 376.500000
v: 0

data:
t: 316.500000
v: 0

data:
t: 256.500000
v: 0

data:
t: 196.500000
v: 0
```

```

data:
  t: 136.500000
  v: 0

data:
  t: 76.500000
  v: 0

```

**History**

| Version | Description                                                         |
|---------|---------------------------------------------------------------------|
| 3.08    | The <b>show interface spectrum rrd</b> command has been introduced. |

## 3.146.37 show interface stat

**Description** Show interface statistics.

**Prefix no** No

**Change settings** No

**Multiple input** No

**Synopsis** (show)> **interface** *<name>* **stat**

**Arguments**

| Argument | Value            | Description                             |
|----------|------------------|-----------------------------------------|
| name     | <i>Interface</i> | Full name or an alias of the interface. |

**Example**

```

(show)> interface WifiMaster0/AccessPoint0 stat

rxpackets: 137033
rxbytes: 23915722
rxerrors: 0
rxdropped: 0
txpackets: 847802
txbytes: 1192583473
txerrors: 0
txdropped: 0
timestamp: 11754.721178

```

**History**

| Version | Description                                                 |
|---------|-------------------------------------------------------------|
| 2.00    | The <b>show interface stat</b> command has been introduced. |

## 3.146.38 show interface wps pin

**Description** Show the access point WPS PIN.

**Prefix no** No**Change settings** No**Multiple input** No**Interface type** WiFi**Synopsis** `(show)> interface <name> wps pin`**Arguments**

| Argument | Value            | Description                             |
|----------|------------------|-----------------------------------------|
| name     | <i>Interface</i> | Full name or an alias of the interface. |

**Output**

| Element | Value       |
|---------|-------------|
| pin     | Pin number. |

**Example**

```
(show)> interface WifiMaster0/AccessPoint0 wps pin
pin: 60180360
```

**History**

| Version | Description                                                    |
|---------|----------------------------------------------------------------|
| 2.00    | The <b>show interface wps pin</b> command has been introduced. |

## 3.146.39 show interface wps status

**Description** Show the access point WPS status.**Prefix no** No**Change settings** No**Multiple input** No**Interface type** WiFi**Synopsis** `(show)> interface <name> wps status`**Arguments**

| Argument | Value            | Description                             |
|----------|------------------|-----------------------------------------|
| name     | <i>Interface</i> | Full name or an alias of the interface. |

**Output**

| Element    | Value                               |
|------------|-------------------------------------|
| wps        | Root node.                          |
| configured | WPS is configured for Access Point. |



| Element       | Value                               |
|---------------|-------------------------------------|
| auto-self-pin | Auto-self-pin mode state.           |
| status        | disabled<br>enabled<br>active       |
| direction     | send<br>receive                     |
| mode          | pbcc<br>self-pin<br>peer            |
| left          | Time to session closure in seconds. |

**Example**

```
(show)> interface WifiMaster0/AccessPoint0 wps status

      wps:
        configured: yes
        auto-self-pin: yes
        status: active
        direction: send
        mode: self-pin
        left: infinite
```

**History**

| Version | Description                                                       |
|---------|-------------------------------------------------------------------|
| 2.00    | The <b>show interface wps status</b> command has been introduced. |

## 3.146.40 show interface zerotier peers

**Description** Show a list of nodes.

**Prefix no** No

**Change settings** No

**Multiple input** No

**Synopsis** `(show)> interface <name> zerotier peers`

**Arguments**

| Argument | Value            | Description                             |
|----------|------------------|-----------------------------------------|
| name     | <i>Interface</i> | Full name or an alias of the interface. |

**Example**

```
(show)> interface ZeroTier0 zerotier peers
```

```

peer:
  address: 63f865ae71
  latency: 328
    role: PLANET
  version: -1.-1.-1

    path: 50.7.252.138/9993

    path: 50.7.252.138/9993

peer:
  address: 458cde7190
  latency: 201
    role: PLANET
  version: -1.-1.-1

    path: 103.195.103.66/9993

peer:
  address: 126127940c
  latency: 153
    role: LEAF
  version: 1.12.2

    path: 35.209.81.208/53871

    path: 35.209.81.208/53871

    path: 35.209.81.208/53871

peer:
  address: fdfe04eba9
  latency: 129
    role: PLANET
  version: -1.-1.-1

    path: 84.17.53.155/9993

peer:
  address: dfde9efeb9
  latency: 246
    role: PLANET
  version: -1.-1.-1

    path: 104.194.8.134/9993

```

**History**

| Version | Description                                                           |
|---------|-----------------------------------------------------------------------|
| 4.01    | The <b>show interface zerotier peers</b> command has been introduced. |

## 3.146.41 show internet status

**Description** Check for an Internet connection on the device. The "Internet" LED (the globe) lights up as a result of connecting to popular internet sites.

**Prefix no** No

**Change settings** No

**Multiple input** No

**Synopsis** `(show)> internet status`

**Example** `(show)> internet status`

```

        checked: Tue Apr 24 17:14:37 2018
        reliable: yes
gateway-accessible: yes
  dns-accessible: yes
  host-accessible: yes
    internet: yes

gateway:
  interface: GigabitEthernet1
    address: 192.168.1.1
    failures: 0
  accessible: yes
    excluded: no

hosts:
  host:
    name: example.net
    failures: 0
    resolved: yes
  accessible: yes

  host:
    name: google.com
    failures: 0
    resolved: no
  accessible: no

```

### History

| Version | Description                                                  |
|---------|--------------------------------------------------------------|
| 2.11    | The <b>show internet status</b> command has been introduced. |

## 3.146.42 show ip arp

**Description** Display the contents of the [ARP](#) cache.

**Prefix no** No

**Change settings** No

**Multiple input** No

**Synopsis** (show)> **ip arp**

**Example** (show)> **ip arp**

```
=====
IP                MAC                Interface
=====
192.168.75.209    9c:b7:0d:91:e7:31    Home
82.135.72.150     00:0e:0c:09:db:60    ISP
192.168.75.106    88:53:2e:5e:07:1d    Home
192.168.75.201    7c:61:93:eb:6c:77    Home
192.168.75.203    00:19:d2:48:d6:dc    Home
10.10.30.34       a0:88:b4:40:9c:98    GuestWiFi
192.168.75.203    7c:61:93:ee:88:67    Home
192.168.75.211    00:26:c7:4a:e0:16    Home
82.138.72.163     34:51:c9:c6:53:cf    ISP
192.168.75.200    60:d8:19:cb:1b:36    Home
192.168.75.204    4c:0f:6e:4b:3c:ba    Home
82.138.72.129     00:30:48:89:b5:9f    ISP
```

**History**

| Version | Description                                         |
|---------|-----------------------------------------------------|
| 2.00    | The <b>show ip arp</b> command has been introduced. |

### 3.146.43 show ip conntrack lockout

**Description** Show conntrack lockout status.

**Prefix no** No

**Change settings** No

**Multiple input** No

**Synopsis** (show)> **ip hotspot lockout**

**Example** (show)> **ip conntrack lockout**

```
enabled: yes
active: no
time-left: 0
max-size: 32768

usage:
public: 2
```

**History**

| Version | Description                                                      |
|---------|------------------------------------------------------------------|
| 4.03    | The <b>show ip contrack lockout</b> command has been introduced. |

## 3.146.44 show ip dhcp bindings

**Description** Show *DHCP server* status. If you use no argument, the entire list of issued IPs for all pools will be displayed.

**Prefix no** No

**Change settings** No

**Multiple input** No

**Synopsis** (show)> **ip dhcp bindings** [ *pool* ]

**Arguments**

| Argument | Value         | Description    |
|----------|---------------|----------------|
| pool     | <i>String</i> | The pool name. |

**Example**

```
(show)> ip dhcp bindings _WEBADMIN

      lease:
          ip: 192.168.15.211
          mac: 00:26:c7:4a:e0:16
          expires: 289
          hostname: lenovo
      lease:
          ip: 192.168.15.208
          mac: 00:19:d2:48:d6:dc
          expires: 258
          hostname: evo
      ...
      ...
```

**History**

| Version | Description                                                   |
|---------|---------------------------------------------------------------|
| 2.00    | The <b>show ip dhcp bindings</b> command has been introduced. |

## 3.146.45 show ip dhcp pool

**Description** Show information about specified pool. If you use no argument, the information about all system pools will be displayed.

**Prefix no** No

**Change settings** No

**Multiple input** No

**Synopsis** (show)> **ip dhcp pool** [ <pool> ]

**Arguments**

| Argument | Value         | Description    |
|----------|---------------|----------------|
| pool     | <i>String</i> | The pool name. |

**Example**

```
(show)> ip dhcp pool 123

pool, name = 123:
interface, binding = auto:
  network: 0.0.0.0/0
  begin: 0.0.0.0
  end: 0.0.0.0
  router, default = yes: 0.0.0.0
  lease, default = yes: 25200
  state: down
  debug: no
```

**History**

| Version | Description                                               |
|---------|-----------------------------------------------------------|
| 2.03    | The <b>show ip dhcp pool</b> command has been introduced. |

## 3.146.46 show ip hotspot

**Description** Show hotspot hosts.

**Prefix no** No

**Change settings** No

**Multiple input** No

**Synopsis** (show)> **ip hotspot**

**Example**

```
(show)> ip hotspot

host:
  mac: 24:92:0e:92:e5:44
  via: 24:92:0e:92:e5:44
  ip: 192.168.1.41
  hostname: android-41d997d510af8ff9
  name:

interface:
  id: Bridge0
  name: Home
  description: Home network (Wired and wireless hosts)
```

```

    expires: 207328
    registered: no
    access: permit
    schedule:
    active: yes
    rxbytes: 0
    txbytes: 0
    uptime: 4911
    link: up
    ssid: Bewilderbeast
    ap: WifiMaster0/AccessPoint0
authenticated: yes
    txrate: 65
    ht: 20
    mode: 11n
    gi: 800
    rssi: -24
    mcs: 7

    host:
        mac: 20:aa:4b:5c:09:0e
        via: 20:aa:4b:5c:09:0e
        ip: 192.168.1.51
    hostname: Julia-PC
    name:

    interface:
        id: Bridge0
        name: Home
    description: Home network (Wired and wireless hosts)

    expires: 212967
    registered: no
    access: permit
    schedule:
    active: yes
    rxbytes: 0
    txbytes: 0
    uptime: 884
    link: up
    ssid: Bewilderbeast
    ap: WifiMaster0/AccessPoint0
authenticated: yes
    txrate: 130
    ht: 20
    mode: 11n
    gi: 800
    rssi: -37
    mcs: 15

```

## History

| Version | Description                                             |
|---------|---------------------------------------------------------|
| 2.09    | The <b>show ip hotspot</b> command has been introduced. |

## 3.146.47 show ip hotspot rrd

**Description** Show registered host traffic information of Round Robin Database.

**Prefix no** No

**Change settings** No

**Multiple input** No

**Synopsis** (show)> **ip hotspot** *<mac>* **rrd** *<attribute>* [*<detail>*]

### Arguments

| Argument  | Value       | Description                     |
|-----------|-------------|---------------------------------|
| mac       | MAC address | MAC address of registered host. |
| attribute | rxspeed     | Data rate type.                 |
|           | txspeed     |                                 |
|           | rxbytes     |                                 |
|           | txbytes     |                                 |
| detail    | 0           | Level of detail is 1 second.    |
|           | 1           | Level of detail is 2 seconds.   |
|           | 2           | Level of detail is 3 seconds.   |
|           | 3           | Level of detail is 5 seconds.   |
|           | 4           | Level of detail is 15 seconds.  |
|           | 5           | Level of detail is 30 seconds.  |
|           | 6           | Level of detail is 1 minute.    |
|           | 7           | Level of detail is 2 minutes.   |
|           | 8           | Level of detail is 3 minutes.   |
|           | 9           | Level of detail is 5 minutes.   |
|           | 10          | Level of detail is 15 minutes.  |
|           | 11          | Level of detail is 30 minutes.  |



**Example**

```
(show)> ip hotspot a8:1e:84:85:f2:11 rrd rxspeed
```

```
data:
    t: 2180.491855
    v: 16298

data:
    t: 2177.492050
    v: 9026

data:
    t: 2174.491916
    v: 11450

data:
    t: 2171.491843
    v: 626
```

```
(show)> ip hotspot a8:1e:84:85:f2:11 rrd txspeed
```

```
data:
    t: 2228.491841
    v: 952

data:
    t: 2225.491920
    v: 8813

data:
    t: 2222.492053
    v: 28746

data:
    t: 2219.491845
    v: 22474
```

```
(show)> ip hotspot a8:1e:84:85:f2:11 rrd rxbytes
```

```
data:
    t: 2279.491860
    v: 4197

data:
    t: 2276.492050
    v: 362

data:
    t: 2273.492040
    v: 14337

data:
    t: 2270.491862
    v: 3281
```

```
(show)> ip hotspot a8:1e:84:85:f2:11 rrd txbytes
```

```
data:
    t: 2360.491865
    v: 3342
```

```
data:
    t: 2357.491853
    v: 142
```

```
data:
    t: 2354.491949
    v: 3333
```

```
data:
    t: 2351.491847
    v: 3390
```

### History

| Version | Description                                                 |
|---------|-------------------------------------------------------------|
| 2.14    | The <b>show ip hotspot rrd</b> command has been introduced. |

## 3.146.48 show ip hotspot summary

**Description** Show the information about traffic usage for several registered hosts according to Round Robin Database. Sorting is in descending order.

**Prefix no** No

**Change settings** No

**Multiple input** No

**Synopsis**

```
(show)> ip hotspot summary <attribute> [ detail <detail> ] [ count
<count> ]
```

### Arguments

| Argument  | Value          | Description                                                                   |
|-----------|----------------|-------------------------------------------------------------------------------|
| attribute | rxspeed        | Value of data rate type.                                                      |
|           | txspeed        |                                                                               |
|           | rxbytes        |                                                                               |
|           | txbytes        |                                                                               |
| detail    | 0              | Level of detail is 3 seconds.                                                 |
|           | 1              | Level of detail is 60 seconds.                                                |
|           | 2              | Level of detail is 180 seconds.                                               |
|           | 3              | Level of detail is 1440 seconds.                                              |
| count     | <i>Integer</i> | The number of hosts. If not specified, the entire list of hosts is displayed. |

**Example**

```
(show)> ip hotspot summary rxspeed
```

```
    t: 255

    host:
      active: yes
      name: toshiba
      rxspeed: 143964

    host:
      active: yes
      name: lnx
      rxspeed: 24749

    host:
      active: yes
      name: oneplus6
      rxspeed: 2558
```

```
(show)> ip hotspot summary rxspeed detail 0
```

```
    t: 0

    host:
      active: yes
      name: toshiba
      rxspeed: 186519

    host:
      active: yes
      name: oneplus6
      rxspeed: 94298

    host:
      active: yes
      name: lnx
      rxspeed: 8237
```

```
(show)> ip hotspot summary rxspeed count 3
```

```
    t: 255

    host:
      active: yes
      name: toshiba
      rxspeed: 390322

    host:
      active: yes
      name: lnx
      rxspeed: 53518

    host:
      active: yes
```

```
name: onepus6
rxspeed: 5284
```

**History**

| Version | Description                                                     |
|---------|-----------------------------------------------------------------|
| 2.14    | The <b>show ip hotspot summary</b> command has been introduced. |

## 3.146.49 show ip http proxy

**Description** Show HTTP proxy status.

**Prefix no** No

**Change settings** No

**Multiple input** No

**Synopsis** (show)> **ip http proxy**

**Example**

```
(show)> ip http proxy

proxy:
  name: modem
  domain: myhomemodem.keenetic.link
  upstream: http://192.168.8.1:80
  allow: public
  ndns: yes
```

**History**

| Version | Description                                                |
|---------|------------------------------------------------------------|
| 2.09    | The <b>show ip http proxy</b> command has been introduced. |

## 3.146.50 show ip name-server

**Description** Show a list of current IPv4 and IPv6 addresses of DNS servers in order of decreasing priority.

**Prefix no** No

**Change settings** No

**Multiple input** No

**Synopsis** (show)> **ip name-server**

**Example**

```
(show)> ip name-server

server:
```

```

        address: 1.1.1.1
        port: 0
        domain:
        global: 0
        service: Dns::Manager
    interface:

server:
    address: 9.9.9.9
    port: 0
    domain:
    global: 0
    service: Dns::Manager
    interface:

server:
    address: 2001:4860:4860::8888
    port: 0
    domain: ISP
    global: 0
    service: Dns::Manager
    interface:

server:
    address: 193.0.174.21
    port: 0
    domain:
    global: 64520
    service: Dhcp::Client-GigabitEthernet1
    interface: GigabitEthernet1

server:
    address: 2a02:290:0:1::4
    port: 0
    domain:
    global: 64520
    service: Ip6::Dhcp::Client-GigabitEthernet1
    interface: GigabitEthernet1

server:
    address: 10.2.0.1
    port: 0
    domain:
    global: 43
    service: Dns::InterfaceSpecific-Wireguard5
    interface: Wireguard5

```

## History

| Version | Description                                                 |
|---------|-------------------------------------------------------------|
| 2.00    | The <b>show ip name-server</b> command has been introduced. |

## 3.146.51 show ip nat

**Description** Show network address translation table.

**Prefix no** No

**Change settings** No

**Multiple input** No

**Synopsis** (show)> **ip nat** [**tcp**]

### Arguments

| Argument | Value          | Description                                              |
|----------|----------------|----------------------------------------------------------|
| tcp      | <i>Keyword</i> | Only the records with <i>TCP</i> type will be displayed. |

### Example

```
(show)> ip nat
```

| Type | In<br>  Out | Source          | Port  | Destination     | Port  | Packets |
|------|-------------|-----------------|-------|-----------------|-------|---------|
| udp  |             | 10.1.30.34      | 6482  | 111.221.77.159  | 40005 | 1       |
|      |             | 111.221.77.159  | 40005 | 82.138.7.164    | 6482  | 1       |
| udp  |             | 220.27.130.179  | 6896  | 82.138.7.164    | 28197 | 1       |
|      |             | 192.168.15.204  | 28197 | 220.27.130.179  | 6896  | 1       |
| tcp  |             | 10.1.30.33      | 57474 | 78.141.179.15   | 12350 | 12      |
|      |             | 78.141.179.15   | 12350 | 82.138.7.164    | 57474 | 11      |
| udp  |             | 10.1.30.34      | 6482  | 84.201.228.162  | 44423 | 11      |
|      |             | 84.201.228.162  | 44423 | 82.138.7.164    | 6482  | 16      |
| tcp  |             | 10.1.30.34      | 46655 | 96.55.147.21    | 443   | 2       |
|      |             | 96.55.147.21    | 443   | 82.138.7.164    | 46655 | 0       |
| udp  |             | 10.1.30.34      | 6482  | 213.199.179.158 | 40006 | 1       |
|      |             | 213.199.179.158 | 40006 | 82.138.7.164    | 6482  | 1       |

### History

| Version | Description                                         |
|---------|-----------------------------------------------------|
| 2.00    | The <b>show ip nat</b> command has been introduced. |

## 3.146.52 show ip neighbour

**Description** Show the list of discovered hosts on the network at the OSI model network level.

**Prefix no** No

**Change settings** No

**Multiple input** No

**Synopsis** `(show)> ip neighbour [alive]`

**Arguments**

| Argument | Value          | Description        |
|----------|----------------|--------------------|
| alive    | <i>Keyword</i> | Show active hosts. |

**Example**

```
(show)> ip neighbour

neighbour:
    id: 1
    via: b8:88:e1:2b:30:af
    mac: b8:88:e1:2b:30:af
address-family: ipv4
    address: 192.168.22.16
    interface: Bridge0
    first-seen: 251387
    last-seen: 0
    leasetime: 7372
    expired: no
    wireless: no

neighbour:
    id: 4
    via: b8:88:e2:4b:30:af
    mac: b8:88:e2:4b:30:af
address-family: ipv6

addresses:
    address:
        address: fe80::a022:a505:fae6:c891
        status: active
        last-seen: 3

    interface: Bridge0
    first-seen: 251371
    last-seen: 251371
    leasetime: 0
    expired: no
    wireless: no
```

**History**

| Version | Description                                               |
|---------|-----------------------------------------------------------|
| 2.10    | The <b>show ip neighbour</b> command has been introduced. |

## 3.146.53 show ip policy

**Description** Show the IP Policy profile status.

**Prefix no** No

**Change settings** No

**Multiple input** No

**Synopsis** `(show)> ip policy [ <policy> ]`

**Arguments**

| Argument | Value         | Description                |
|----------|---------------|----------------------------|
| policy   | <i>Policy</i> | Name of IP Policy profile. |

**Example**

```
(show)> ip policy
policy, name = Policy0, description = VPN-OpenVPN:
    mark: fffffd00
    table: 42

    route:
    destination: 10.1.30.0/24
    gateway: 0.0.0.0
    interface: Guest
    metric: 0
    proto: boot
    floating: no

    route:
    destination: 172.16.3.33/32
    gateway: 0.0.0.0
    interface: L2TPVPN
    metric: 0
    proto: boot
    floating: no

    route:
    destination: 192.168.1.0/24
    gateway: 0.0.0.0
    interface: Home
    metric: 0
    proto: boot
    floating: no

policy, name = Policy3, description = Home:
    mark: fffffd03
    table: 45

    route:
    destination: 10.1.30.0/24
    gateway: 0.0.0.0
    interface: Guest
    metric: 0
    proto: boot
    floating: no
```



```

route:
destination: 172.16.3.33/32
gateway: 0.0.0.0
interface: L2TPVPN
metric: 0
proto: boot
floating: no

```

```

route:
destination: 192.168.1.0/24
gateway: 0.0.0.0
interface: Home
metric: 0
proto: boot
floating: no

```

```
(show)> ip policy Policy0
```

```
policy, name = Policy0:
```

```

mark: fffffd00
table: 42

```

```

route:
destination: 0.0.0.0/0
gateway: 193.0.174.1
interface: ISP
metric: 0
proto: boot
floating: no

```

```

route:
destination: 10.1.30.0/24
gateway: 0.0.0.0
interface: Guest
metric: 0
proto: boot
floating: no

```

```

route:
destination: 185.230.127.84/32
gateway: 193.0.174.1
interface: ISP
metric: 0
proto: boot
floating: no

```

```

route:
destination: 192.168.1.0/24
gateway: 0.0.0.0
interface: Home
metric: 0
proto: boot
floating: no

```

```
route:
```

```

destination: 193.0.174.0/24
  gateway: 0.0.0.0
  interface: ISP
    metric: 0
    proto: boot
    floating: no

route:
destination: 193.0.175.0/25
  gateway: 193.0.174.10
  interface: ISP
    metric: 0
    proto: boot
    floating: no

route:
destination: 193.0.175.22/32
  gateway: 193.0.174.1
  interface: ISP
    metric: 0
    proto: boot
    floating: no

```

**History**

| Version | Description                                            |
|---------|--------------------------------------------------------|
| 2.12    | The <b>show ip policy</b> command has been introduced. |

## 3.146.54 show ip route

**Description** Show the current routing table.

**Prefix no** No

**Change settings** No

**Multiple input** No

**Synopsis** (show)> **ip route** [table <table> ] [sort <criteria> <direction> ]

**Arguments**

| Argument  | Value          | Description                                           |
|-----------|----------------|-------------------------------------------------------|
| table     | <i>Integer</i> | The route number.                                     |
| criteria  | interface      | Sorting criteria is the interface name.               |
|           | gateway        | Sorting criteria is the gateway address.              |
|           | destination    | Sorting criteria is the destination address.          |
| direction | ascending      | Routing table records are sorted in ascending order.  |
|           | descending     | Routing table records are sorted in descending order. |

**Example****(show)> ip route table 254**

| Destination<br>F Metric  | Gateway       | Interface                | ▶ |
|--------------------------|---------------|--------------------------|---|
| 0.0.0.0/0<br>U 0         | 192.168.133.1 | WifiMaster1/WifiStation0 | ▶ |
| 1.1.1.1/32<br>U 0        | 0.0.0.0       | Wireguard1               | ▶ |
| 8.8.8.8/32<br>U 0        | 0.0.0.0       | Wireguard7               | ▶ |
| 10.1.30.0/24<br>U 0      | 0.0.0.0       | Guest                    | ▶ |
| 10.8.0.0/24<br>U 0       | 0.0.0.0       | Wireguard3               | ▶ |
| 13.32.99.0/24<br>U 0     | 0.0.0.0       | Wireguard7               | ▶ |
| 82.3.116.12/32<br>U 0    | 192.168.133.1 | WifiMaster1/WifiStation0 | ▶ |
| 108.157.4.0/24<br>U 0    | 0.0.0.0       | Wireguard7               | ▶ |
| 162.159.192.1/32<br>U 0  | 192.168.133.1 | WifiMaster1/WifiStation0 | ▶ |
| 172.16.85.0/24<br>U 0    | 0.0.0.0       | Wireguard1               | ▶ |
| 176.124.212.86/32<br>U 0 | 192.168.133.1 | WifiMaster1/WifiStation0 | ▶ |
| 188.114.96.0/22<br>U 0   | 0.0.0.0       | Wireguard7               | ▶ |
| 192.168.1.0/24<br>U 0    | 192.168.15.88 | Home                     | ▶ |
| 192.168.15.0/24<br>U 0   | 0.0.0.0       | Home                     | ▶ |
| 192.168.17.0/24<br>U 0   | 0.0.0.0       | Bridge2                  | ▶ |
| 192.168.133.0/24<br>U 0  | 0.0.0.0       | WifiMaster1/WifiStation0 | ▶ |
| 192.168.220.0/24<br>U 0  | 0.0.0.0       | Wireguard1               | ▶ |
| 194.71.130.15/32<br>U 0  | 192.168.133.1 | WifiMaster1/WifiStation0 | ▶ |

**(show)> ip route sort interface ascending**

| Destination<br>F Metric | Gateway       | Interface | ▶ |
|-------------------------|---------------|-----------|---|
| 192.168.1.0/24<br>U 0   | 192.168.15.88 | Home      | ▶ |
| 192.168.15.0/24<br>U 0  | 0.0.0.0       | Home      | ▶ |
| 10.1.30.0/24<br>U 0     | 0.0.0.0       | Guest     | ▶ |
| 192.168.17.0/24         | 0.0.0.0       | Bridge2   | ▶ |

|                   |               |                          |   |
|-------------------|---------------|--------------------------|---|
| U 0               |               |                          |   |
| 0.0.0.0/0         | 192.168.133.1 | WifiMaster1/WifiStation0 | ► |
| U 0               |               |                          |   |
| 84.2.111.11/32    | 192.168.133.1 | WifiMaster1/WifiStation0 | ► |
| U 0               |               |                          |   |
| 162.159.192.1/32  | 192.168.133.1 | WifiMaster1/WifiStation0 | ► |
| U 0               |               |                          |   |
| 176.124.212.86/32 | 192.168.133.1 | WifiMaster1/WifiStation0 | ► |
| U 0               |               |                          |   |
| 192.168.133.0/24  | 0.0.0.0       | WifiMaster1/WifiStation0 | ► |
| U 0               |               |                          |   |
| 194.71.130.15/32  | 192.168.133.1 | WifiMaster1/WifiStation0 | ► |
| U 0               |               |                          |   |
| 1.1.1.1/32        | 0.0.0.0       | Wireguard1               | ► |
| U 0               |               |                          |   |
| 172.16.85.0/24    | 0.0.0.0       | Wireguard1               | ► |
| U 0               |               |                          |   |
| 192.168.220.0/24  | 0.0.0.0       | Wireguard1               | ► |
| U 0               |               |                          |   |
| 10.8.0.0/24       | 0.0.0.0       | Wireguard3               | ► |
| U 0               |               |                          |   |
| 8.8.8.8/32        | 0.0.0.0       | Wireguard7               | ► |
| U 0               |               |                          |   |
| 13.32.99.0/24     | 0.0.0.0       | Wireguard7               | ► |
| U 0               |               |                          |   |
| 108.157.4.0/24    | 0.0.0.0       | Wireguard7               | ► |
| U 0               |               |                          |   |
| 188.114.96.0/22   | 0.0.0.0       | Wireguard7               | ► |
| U 0               |               |                          |   |

```
(show)> ip route sort interface descending
```

| Destination<br>F Metric | Gateway       | Interface                | ► |
|-------------------------|---------------|--------------------------|---|
| <hr/>                   |               |                          |   |
| 188.114.96.0/22         | 0.0.0.0       | Wireguard7               | ► |
| U 0                     |               |                          |   |
| 108.157.4.0/24          | 0.0.0.0       | Wireguard7               | ► |
| U 0                     |               |                          |   |
| 13.32.99.0/24           | 0.0.0.0       | Wireguard7               | ► |
| U 0                     |               |                          |   |
| 8.8.8.8/32              | 0.0.0.0       | Wireguard7               | ► |
| U 0                     |               |                          |   |
| 10.8.0.0/24             | 0.0.0.0       | Wireguard3               | ► |
| U 0                     |               |                          |   |
| 192.168.220.0/24        | 0.0.0.0       | Wireguard1               | ► |
| U 0                     |               |                          |   |
| 172.16.85.0/24          | 0.0.0.0       | Wireguard1               | ► |
| U 0                     |               |                          |   |
| 1.1.1.1/32              | 0.0.0.0       | Wireguard1               | ► |
| U 0                     |               |                          |   |
| 194.71.130.15/32        | 192.168.133.1 | WifiMaster1/WifiStation0 | ► |
| U 0                     |               |                          |   |
| 192.168.133.0/24        | 0.0.0.0       | WifiMaster1/WifiStation0 | ► |

|                   |               |                          |   |  |
|-------------------|---------------|--------------------------|---|--|
| U                 | 0             |                          |   |  |
| 176.124.212.86/32 | 192.168.133.1 | WifiMaster1/WifiStation0 | ▶ |  |
| U                 | 0             |                          |   |  |
| 162.159.192.1/32  | 192.168.133.1 | WifiMaster1/WifiStation0 | ▶ |  |
| U                 | 0             |                          |   |  |
| 85.1.112.11/32    | 192.168.133.1 | WifiMaster1/WifiStation0 | ▶ |  |
| U                 | 0             |                          |   |  |
| 0.0.0.0/0         | 192.168.133.1 | WifiMaster1/WifiStation0 | ▶ |  |
| U                 | 0             |                          |   |  |
| 192.168.17.0/24   | 0.0.0.0       | Bridge2                  | ▶ |  |
| U                 | 0             |                          |   |  |
| 10.1.30.0/24      | 0.0.0.0       | Guest                    | ▶ |  |
| U                 | 0             |                          |   |  |
| 192.168.15.0/24   | 0.0.0.0       | Home                     | ▶ |  |
| U                 | 0             |                          |   |  |
| 192.168.1.0/24    | 192.168.15.88 | Home                     | ▶ |  |
| U                 | 0             |                          |   |  |

History

| Version | Description                                           |
|---------|-------------------------------------------------------|
| 2.00    | The <b>show ip route</b> command has been introduced. |

### 3.146.55 show ip service

**Description** Show a list of open ports used by system services.

**Prefix no** No

**Change settings** No

**Multiple input** No

**Synopsis** (show)> **ip service**

**Example**

```
(show)> ip service

service:
service-name: Telnet
family: ipv4
protocol: tcp
port: 23
security-level: private

service:
service-name: DNS proxy
family: ipv4
protocol: udp
port: 53
security-level: protected

service:
```

```

    service-name: DNS proxy
      family: ipv4
      protocol: tcp
      port: 53
    security-level: protected

    service:
      service-name: DNS proxy
      family: ipv4
      protocol: udp
      port: 54321
    security-level: private

```

**History**

| Version | Description                                             |
|---------|---------------------------------------------------------|
| 3.06    | The <b>show ip service</b> command has been introduced. |

## 3.146.56 show ipsec

**Description** Show info about *IPsec/IKE* strongSwan service status.

**Prefix no** No

**Change settings** No

**Multiple input** No

**Synopsis** (show)> **ipsec**

**Example** (show)> **ipsec**

```

ipsec_statusall:

Status of IKE charon daemon (strongSwan 5.3.4, Linux 2.6.36, ▶
mips):
  uptime: 6 days, since Dec 22 10:23:36 2015
  worker threads: 11 of 16 idle, 5/0/0/0 working, job queue: ▶
0/0/0/0, scheduled: 10
  loaded plugins: charon aes des sha1 sha2 md5 random nonce ▶
openssl xcbc cmac hmac attr kernel-netlink socket-default stroke ▶
updown eap-mschapv2 eap-dynamic xauth-generic xauth-eap ▶
error-notify systime-fix
Listening IP addresses:
  192.168.1.1
  10.10.10.15
Connections:
  test: %any...ipsec.example.org IKEv2, dpddelay=10s
  test: local: [ipsec.example.org] uses pre-shared key ▶
authentication
  test: remote: [ipsec.example.com] uses pre-shared key ▶
authentication

```

```
test: child: 172.16.200.0/24 === 172.16.201.0/24 TUNNEL, ►
dpdaction=restart
Security Associations (1 up, 0 connecting):
test[572]: ESTABLISHED 24 minutes ago, ►
10.10.10.15[ipsec.example.org]...10.10.10.20[ipsec.example.com]
test[572]: IKEv2 SPIs: 00a6ebfc9d90f1c2_i* ►
3cd201ef496df75c_r, pre-shared key reauthentication in 20 minutes
test[572]: IKE proposal: ►
AES_CBC=256/HMAC_SHA1_96/PRF_HMAC_SHA1/MODP_1024/#
test{304}: INSTALLED, TUNNEL, reqid 185, ESP in UDP SPIs: ►
ca59bfcf_i cde23d83_o
test{304}: AES_CBC_256/HMAC_SHA1_96, 10055 bytes_i (164 ►
pkts, 0s ago), 10786 bytes_o (139 pkts, 0s ago), rekeying in 34 ►
minutes
test{304}: 172.16.200.0/24 === 172.16.201.0/24
```

History

| Version | Description                                        |
|---------|----------------------------------------------------|
| 2.06    | The <b>show ipsec</b> command has been introduced. |

3.146.57 show ipv6 addresses

**Description** Show a list of current IPv6-addresses.

**Prefix no** No

**Change settings** No

**Multiple input** No

**Synopsis** (show)> **ipv6 addresses**

**Example** (show)> **ipv6 addresses**

```
address:
  address: 2001:db8::1
  interface: ISP
valid-lifetime: infinite
address:
  address: 2001:db8::ce5d:4eff:fe4f:aab2
  interface: Home
valid-lifetime: infinite
address:
  address: fd3c:4268:1559:0:ce5d:4eff:fe4f:aab2
  interface: Home
valid-lifetime: infinite
address:
  address: fd01:db8:43:0:ce5d:4eff:fe4f:aab2
  interface: Home
valid-lifetime: infinite
```

**History**

| Version | Description                                                 |
|---------|-------------------------------------------------------------|
| 2.00    | The <b>show ipv6 addresses</b> command has been introduced. |

## 3.146.58 show ipv6 dhcp bindings

**Description** Show *DHCPv6 server* status.

**Prefix no** No

**Change settings** No

**Multiple input** No

**Synopsis** (show)> **ipv6 dhcp bindings**

**Example**

```
(show)> ipv6 dhcp bindings
 subnet:
   name: Default

 subnet:
   name: guest

 lease:
   type: IA-NA
   duid: 00:03:00:01:a8:a1:59:61:57:69
   address: fc34:5678:0:4::cc
   expires: 299

 lease:
   type: IA-PD
   duid: 00:03:00:01:a8:a1:59:61:57:69
   prefix: fc34:5678:0:7::/64
   remote: fe80::2ecb:ff38:a778:66e8
   expires: 299
```

**History**

| Version | Description                                                     |
|---------|-----------------------------------------------------------------|
| 4.00    | The <b>show ipv6 dhcp bindings</b> command has been introduced. |

## 3.146.59 show ipv6 prefixes

**Description** Show a list of current IPv6-prefixes.

**Prefix no** No

**Change settings** No

**Multiple input** No



**Synopsis**

```
(show)> ipv6 prefixes
```

**Example**

```
(show)> ipv6 prefixes

    prefix:
      prefix: 2001:db8::/64
      interface: ISP
      valid-lifetime: infinite
      preferred-lifetime: infinite
    prefix:
      prefix: fd3c:4268:1559::/48
      interface:
      valid-lifetime: infinite
      preferred-lifetime: infinite
    prefix:
      prefix: fd01:db8:43::/48
      interface:
      valid-lifetime: infinite
      preferred-lifetime: infinite
```

**History**

| Version | Description                                                |
|---------|------------------------------------------------------------|
| 2.00    | The <b>show ipv6 prefixes</b> command has been introduced. |

## 3.146.60 show ipv6 route

**Description** Show a list of current IPv6-routes.

**Prefix no** No

**Change settings** No

**Multiple input** No

**Synopsis**

```
(show)> ipv6 route [table <table> ] [sort <criteria> <direction> ]
```

**Arguments**

| Argument  | Value          | Description                                           |
|-----------|----------------|-------------------------------------------------------|
| table     | <i>Integer</i> | The route number.                                     |
| criteria  | interface      | Sorting criteria is the interface name.               |
|           | gateway        | Sorting criteria is the gateway address.              |
|           | destination    | Sorting criteria is the destination address.          |
| direction | ascending      | Routing table records are sorted in ascending order.  |
|           | descending     | Routing table records are sorted in descending order. |

**Example****(show)> ipv6 route table 42**

```

route6:
destination: 2a02:290:2:65d:52ff:20ff:fe00:1e86/128
gateway: ::
interface: Home
metric: 256
flags: U
rejecting: no
proto: boot
floating: no
static: no

```

**(show)> ipv6 route sort interface ascending**

```

route6:
destination: 2a02:290:2:65d:52ff:20ff:fe00:1e86/128
gateway: ::
interface: Home
metric: 256
flags: U
rejecting: no
proto: kernel
floating: no
static: no

```

**(show)> ipv6 route sort gateway descending**

```

route6:
destination: ::/0
gateway: fe80::66a0:e7ff:fef5:6392
interface: ISP
metric: 1024
flags: U
rejecting: no
proto: boot
floating: no
static: no

```

**History**

| Version | Description                                              |
|---------|----------------------------------------------------------|
| 2.00    | The <b>show ipv6 routes</b> command has been introduced. |
| 4.00    | New command name is <b>show ipv6 route</b> .             |

**3.146.61 show ipv6 subnets****Description** Show a list of current IPv6-subnets.**Prefix no** No**Change settings** No

**Multiple input** No

**Synopsis** (show)> **ipv6 subnets**

**Example** (show)> **ipv6 subnets**

```

subnet:
  name: Default
  interface: Home

  prefixes:
    prefix: 2a0d:8140:2ba1::/64
    interface: TunnelSixInFour0
    valid-lifetime: infinite
  preferred-lifetime: 0
  global: no

```

| History | Version | Description                                               |
|---------|---------|-----------------------------------------------------------|
|         | 4.01    | The <b>show ipv6 subnets</b> command has been introduced. |

## 3.146.62 show kabinet status

**Description** Check for the status and configuration of KASiNET authenticator.

**Prefix no** No

**Change settings** No

**Multiple input** No

**Synopsis** (show)> **kabinet status**

**Example** (show)> **kabinet status**

```

kabinet:
  enabled: yes
  wan: yes
  state: STOPPED
  server: 10.0.0.1
  access-level: internet
  protocol-version: 2

```

| History | Version | Description                                                 |
|---------|---------|-------------------------------------------------------------|
|         | 2.02    | The <b>show kabinet status</b> command has been introduced. |

## 3.146.63 show last-change

**Description** Show when and who made the latest changes in the settings.

**Prefix no** No

**Change settings** No

**Multiple input** No

**Synopsis** (show)> **last-change**

**Example** (show)> **last-change**

```
date: Thu, 12 Jul 2012 10:01:47 GMT
```

```
agent: cli
```

**History**

| Version | Description                                              |
|---------|----------------------------------------------------------|
| 2.00    | The <b>show last-change</b> command has been introduced. |

## 3.146.64 show led

**Description** Show information about specified LED in the system. If you use no argument, the entire list of all LEDs on the device will be displayed. Available LEDs depend on hardware configuration.

**Prefix no** No

**Change settings** No

**Multiple input** No

**Synopsis** (show)> **led** [ <name> ]

**Arguments**

| Argument | Value   | Description                                                                      |
|----------|---------|----------------------------------------------------------------------------------|
| name     | SYS     | The LED name. The number of available indicators depends on the selected device. |
|          | FN      |                                                                                  |
|          | FW_UPD  |                                                                                  |
|          | ACT_ACK |                                                                                  |
|          | WAN     |                                                                                  |
|          | DSL     |                                                                                  |
|          | WLAN    |                                                                                  |
|          | WLAN5   |                                                                                  |
|          | WPS_1   |                                                                                  |

| Argument | Value  | Description |
|----------|--------|-------------|
|          | WPS_2  |             |
|          | WPS_3  |             |
|          | WPS_4  |             |
|          | WPS5_1 |             |
|          | WPS5_2 |             |
|          | WPS5_3 |             |
|          | WPS5_4 |             |
|          | USB_1  |             |
|          | USB_2  |             |
|          | LTE    |             |

**Example**

```
(show)> led FN_1

      leds:
        led, index = 0:
          name: FN_1
        user_configurable: yes
        virtual: no
```

**History**

| Version | Description                                      |
|---------|--------------------------------------------------|
| 2.05    | The <b>show led</b> command has been introduced. |

## 3.146.65 show led bindings

**Description** Show the control associated with the specified LED. If you use no argument, the entire list of all LEDs with theirs controls will be displayed.

**Prefix no** No

**Change settings** No

**Multiple input** No

**Synopsis** `(show)> led [ <name> ]bindings`

**Arguments**

| Argument | Value   | Description                                                               |
|----------|---------|---------------------------------------------------------------------------|
| name     | SYS     | The LED name. Set of available indicators depends on the selected device. |
|          | FN      |                                                                           |
|          | FW_UPD  |                                                                           |
|          | ACT_ACK |                                                                           |
|          | WAN     |                                                                           |

| Argument | Value  | Description |
|----------|--------|-------------|
|          | DSL    |             |
|          | WLAN   |             |
|          | WLAN5  |             |
|          | WPS_1  |             |
|          | WPS_2  |             |
|          | WPS_3  |             |
|          | WPS_4  |             |
|          | WPS5_1 |             |
|          | WPS5_2 |             |
|          | WPS5_3 |             |
|          | WPS5_4 |             |
|          | USB_1  |             |
|          | USB_2  |             |
|          | LTE    |             |

**Example****(show)> led bindings**

```

bindings:

  binding, index = 0:
    led: SYS
  user_configurable: no
  active_control: SystemState
  default_control: SystemState

  binding, index = 1:
    led: FN_1
  user_configurable: yes
  active_control: Usb1PortDeviceAttached
  default_control: Usb1PortDeviceAttached

  binding, index = 2:
    led: FN_2
  user_configurable: yes
  active_control: Usb2PortDeviceAttached
  default_control: Usb2PortDeviceAttached

  binding, index = 3:
    led: ACT_ACK
  user_configurable: no
  active_control: ButtonActivityAcknowledgement
  default_control: ButtonActivityAcknowledgement

  binding, index = 4:
    led: FW_UPD

```

```

user_configurable: no
  active_control:
  default_control:

    binding, index = 5:
      led: WAN
user_configurable: no
  active_control: WanConnected
  default_control: WanConnected

    binding, index = 6:
      led: WLAN
user_configurable: no
  active_control: WlanActivity
  default_control: WlanActivity

    binding, index = 7:
      led: WPS_1
user_configurable: no
  active_control: WlanWps1Activity
  default_control: WlanWps1Activity

    binding, index = 8:
      led: WPS_2
user_configurable: no
  active_control: WlanWps2Activity
  default_control: WlanWps2Activity

    binding, index = 9:
      led: WPS_3
user_configurable: no
  active_control: WlanWps3Activity
  default_control: WlanWps3Activity

    binding, index = 10:
      led: WPS_4
user_configurable: no
  active_control: WlanWps4Activity
  default_control: WlanWps4Activity

    binding, index = 11:
      led: WPS_STA
user_configurable: no
  active_control: WstaWpsActivity
  default_control: WstaWpsActivity

    binding, index = 12:
      led: WLAN5
user_configurable: no
  active_control: Wlan5Activity
  default_control: Wlan5Activity

    binding, index = 13:
      led: WPS5_1

```

```

user_configurable: no
  active_control: Wlan5Wps1Activity
  default_control: Wlan5Wps1Activity

  binding, index = 14:
    led: WPS5_2
user_configurable: no
  active_control: Wlan5Wps2Activity
  default_control: Wlan5Wps2Activity

  binding, index = 15:
    led: WPS5_3
user_configurable: no
  active_control: Wlan5Wps3Activity
  default_control: Wlan5Wps3Activity

  binding, index = 16:
    led: WPS5_4
user_configurable: no
  active_control: Wlan5Wps4Activity
  default_control: Wlan5Wps4Activity

  binding, index = 17:
    led: WPS5_STA
user_configurable: no
  active_control: Wsta5WpsActivity
  default_control: Wsta5WpsActivity

```

**History**

| Version | Description                                               |
|---------|-----------------------------------------------------------|
| 2.08    | The <b>show led bindings</b> command has been introduced. |

## 3.146.66 show led controls

**Description** Show a list of LED controls in the system. Available controls depend on hardware configuration.

**Prefix no** No

**Change settings** No

**Multiple input** No

**Synopsis** (show)> **led controls**

**Example** (show)> **led controls**

```

controls:
  control, index = 0:
    name: SystemState
  short_description: System state

```



```

        owner: ndm
user_configurable: no

        control, index = 1:
            name: ButtonActivityAcknowledgement
short_description: Button activity acknowledgement
            owner: ndm
user_configurable: no

        control, index = 2:
            name: SelectedSchedule
short_description: Selected schedule is active
            owner: ndm
user_configurable: yes

        control, index = 3:
            name: SelectedWan
short_description: Selected WAN interface has default route
            owner: ndm
user_configurable: yes

        control, index = 4:
            name: BackupWan
short_description: Backup WAN interface has default route
            owner: ndm
user_configurable: yes

        control, index = 5:
            name: WanConnected
short_description: WAN interface connected
            owner: ndm
user_configurable: no

        control, index = 6:
            name: Usb1PortDeviceAttached
short_description: USB port 1 known device attached
            owner: ndm
user_configurable: yes

        control, index = 7:
            name: Usb2PortDeviceAttached
short_description: USB port 2 known device attached
            owner: ndm
user_configurable: yes

        control, index = 8:
            name: UpdatesAvailable
short_description: Firmware updates available
            owner: ndm
user_configurable: yes

        control, index = 9:
            name: OpkgLedControl

```

```
short_description: OPKG LED control
    owner: ndm
user_configurable: yes

    control, index = 10:
        name: Wlan5Activity
short_description: WLAN 5GHz interface activity
    owner: mt7615_ap
user_configurable: no

    control, index = 11:
        name: Wlan5Wps1Activity
short_description: WLAN 5GHz SSID 1 WPS activity
    owner: mt7615_ap
user_configurable: no

    control, index = 12:
        name: Wlan5Wps2Activity
short_description: WLAN 5GHz SSID 2 WPS activity
    owner: mt7615_ap
user_configurable: no

    control, index = 13:
        name: Wlan5Wps3Activity
short_description: WLAN 5GHz SSID 3 WPS activity
    owner: mt7615_ap
user_configurable: no

    control, index = 14:
        name: Wlan5Wps4Activity
short_description: WLAN 5GHz SSID 4 WPS activity
    owner: mt7615_ap
user_configurable: no

    control, index = 15:
        name: WlanActivity
short_description: WLAN 2.4GHz interface activity
    owner: mt7615_ap
user_configurable: no

    control, index = 16:
        name: WlanWps1Activity
short_description: WLAN 2.4GHz SSID 1 WPS activity
    owner: mt7615_ap
user_configurable: no

    control, index = 17:
        name: WlanWps2Activity
short_description: WLAN 2.4GHz SSID 2 WPS activity
    owner: mt7615_ap
user_configurable: no

    control, index = 18:
        name: WlanWps3Activity
```

```

short_description: WLAN 2.4GHz SSID 3 WPS activity
    owner: mt7615_ap
user_configurable: no

    control, index = 19:
        name: WlanWps4Activity
short_description: WLAN 2.4GHz SSID 4 WPS activity
    owner: mt7615_ap
user_configurable: no

    control, index = 20:
        name: Wsta5WpsActivity
short_description: Station 5GHz WPS activity
    owner: mt7615_ap
user_configurable: no

    control, index = 21:
        name: WstaWpsActivity
short_description: Station 2.4GHz WPS activity
    owner: mt7615_ap
user_configurable: no

```

**History**

| Version | Description                                               |
|---------|-----------------------------------------------------------|
| 2.08    | The <b>show led controls</b> command has been introduced. |

## 3.146.67 show log

**Description** Show system log contents (records that are present in a circular buffer). The command executes in the background, that is, until forced to stop by the user pressing [Ctrl]+[C].

**Prefix no** No

**Change settings** No

**Multiple input** No

**Synopsis** (show)> **log** [ *<max-lines>* ] [once]

**Arguments**

| Argument  | Value          | Description                           |
|-----------|----------------|---------------------------------------|
| max-lines | <i>Integer</i> | Limit for returned log items.         |
| once      | <i>Keyword</i> | Show current log and exit to the CLI. |

**Example**

```

(show)> log

```

| Time                | Message                                      |
|---------------------|----------------------------------------------|
| I [Jul 12 12:08:39] | radvd[228]: attempting to reread config file |

```

I [Jul 12 12:08:39] radvd[228]: resuming normal operation
I [Jul 12 12:08:40] wmond: WifiMaster0/AccessPoint0: ►
STA(d8:b3:77:36:05:c1)
    occurred MIC different in key handshaking.
I [Jul 12 12:08:40] radvd[228]: attempting to reread config file
I [Jul 12 12:08:40] radvd[228]: resuming normal operation
I [Jul 12 12:08:41] wmond: WifiMaster0/AccessPoint0: ►
STA(d8:b3:77:36:05:c1)
    occurred MIC different in key handshaking.
I [Jul 12 12:08:41] radvd[228]: attempting to reread config file
I [Jul 12 12:08:41] radvd[228]: resuming normal operation
I [Jul 12 12:08:44] wmond: WifiMaster0/AccessPoint0: ►
STA(d8:b3:77:36:05:c1)
    pairwise key handshaking timeout.
I [Jul 12 12:08:44] wmond: WifiMaster0/AccessPoint0: ►
STA(d8:b3:77:36:05:c1) had
    deauthenticated.

```

**History**

| Version | Description                                      |
|---------|--------------------------------------------------|
| 2.00    | The <b>show log</b> command has been introduced. |

## 3.146.68 show mws associations

**Description** Show the list of Access Points on the repeater(s) associated with [MWS](#) controller.

**Prefix no** No

**Change settings** No

**Multiple input** No

**Synopsis** (show)> **mws associations**

**Example** (show)> **mws associations**

```

station:
    mac: 51:ef:22:11:17:1a
    ap: WifiMaster1/Backhaul0
authenticated: yes
txrate: 585
rxrate: 270
uptime: 31
txbytes: 33569
rxbytes: 74324
ht: 80
mode: 11ac
gi: 800
rssi: -27
mcs: 7

```

```
txss: 2
ebf: yes
mu: yes
```

**History**

| Version | Description                                                   |
|---------|---------------------------------------------------------------|
| 3.01    | The <b>show mws associations</b> command has been introduced. |

## 3.146.69 show mws candidate

**Description** Show the list of candidates or the description of specified candidate by the given identifier.

**Prefix no** No

**Change settings** No

**Multiple input** No

**Synopsis**

```
(show)> mws candidate [ <candidate> ]
```

**Arguments**

| Argument  | Value         | Description                     |
|-----------|---------------|---------------------------------|
| candidate | <i>String</i> | Device ID — MAC address or CID. |

**Example**

```
(show)> mws candidate d11246e8-583d-11ef-911a-1f4569ab1720
```

```
candidate:
  mac: 51:ff:21:c4:a1:83
  cid: d11246e8-583d-11ef-911a-1f4569ab1720
  mode: extender
  model: Sprinter (KN-3710)
  state: COMPATIBLE_UPDATE
  fw: 4.3.2
  fw-available: 5.0 Alpha 1
  license: 1111222233334444555
  eula-accepted: yes
  dpn-accepted: yes
  stp-encapsulation: yes

  port:
    label: 1

  port:
    label: 2

  port:
    label: 3

  port:
```

```

label: 0

rci:

(show)> mws candidate 51:ff:21:c4:a1:83

candidate:
    mac: 51:ff:21:c4:a1:83
    cid: d11246e8-583d-11ef-911a-1f4569ab1720
    mode: extender
    model: Sprinter (KN-3710)
    state: COMPATIBLE_UPDATE
    fw: 4.3.2
    fw-available: 5.0 Alpha 1
    license: 1111222233334444555
    eula-accepted: yes
    dpn-accepted: yes
    stp-encapsulation: yes

    port:
        label: 1

    port:
        label: 2

    port:
        label: 3

    port:
        label: 0

rci:

```

**History**

| Version | Description                                                |
|---------|------------------------------------------------------------|
| 2.15    | The <b>show mws candidate</b> command has been introduced. |

## 3.146.70 show mws log

**Description** Show log of connections and transitions from one Access Point to another within [MWS](#). The command executes in the background, that is, until forced to stop by the user pressing [Ctrl]+[C].

**Prefix no** No

**Change settings** No

**Multiple input** No

**Synopsis** `(show)> mws log [ <max-lines> ] [once]`

**Arguments**

| Argument  | Value          | Description                       |
|-----------|----------------|-----------------------------------|
| max-lines | <i>Integer</i> | Limit of entries in the response. |
| once      | <i>Keyword</i> | Show recent entries in the log.   |

**Example**

```
(show)> mws log 1
```

| Time              | Message                                                           |
|-------------------|-------------------------------------------------------------------|
| [Jan 17 15:04:58] | : 64:a2:f9:51:b1:82: associated -> ►<br>50:ff:20:00:11:82 (5 GHz) |

```
(show)> mws log once
```

| Time              | Message                                                              |
|-------------------|----------------------------------------------------------------------|
| [Jan 17 14:46:37] | : 64:a2:f9:51:b1:82: associated -> ►<br>50:ff:20:00:11:82 (5 GHz)    |
| [Jan 17 15:04:50] | : 64:a2:f9:51:b1:82: 50:ff:20:00:11:82 (5 ►<br>GHz) -> disassociated |
| [Jan 17 15:04:58] | : 64:a2:f9:51:b1:82: associated -> ►<br>50:ff:20:00:11:82 (5 GHz)    |

**History**

| Version | Description                                          |
|---------|------------------------------------------------------|
| 2.15    | The <b>show mws log</b> command has been introduced. |

## 3.146.71 show mws member

**Description**

Show the list of members or the description of specified member by the given identifier.

**Prefix no**

No

**Change settings**

No

**Multiple input**

No

**Synopsis**

```
(show)> mws member [ <member> ]
```

**Arguments**

| Argument | Value         | Description                     |
|----------|---------------|---------------------------------|
| member   | <i>String</i> | Device ID — MAC address or CID. |

**Example**

```
(show)> mws member 1113b72-b339-11ee-911a-85c1127b77c0
```

```
member:
```

```
cid: 1113b72-b339-11ee-911a-85c1127b77c0
```

```
        model: Sprinter (KN-3710)
        mac: 50:ff:22:b1:1c:b1
    known-host: Keenetic Sprinter
        ip: 192.168.1.108
        mode: extender
    hw_type: extender
    hw_id: KN-3710
    license: 1114443339998889
    fqdn: d11d2217db1f336a7a48e0a.keenetic.io

fqdn-certificate-valid: yes
    cloud-agent-state: ACTIVE
    internet-available: yes
        fw: 4.3.6.3
        fw-available: 5.0.3
        fw-release: 4.03.C.6.3-9
    fw-release-available: 5.00.C.3.0-2
    fw-update-available: yes
    fw-update-sandbox: preview
        region: EA
    associations: 1

    capabilities:
        acme: yes
        auth-token: yes
    auto-ap-shutdown: yes
    backhaul-bss: yes
        cloud: yes
        controller: yes
        comp-status: yes
    country-code: yes
        dual-band: yes
        mac-band: yes
        mode-hw: no
        mws-assoc: yes
    new-commit: yes
        notify: yes
        owe: yes
    seg-band-steering: yes
        sta-mask: yes
        wind: yes
        wpa3: yes
        wpa-eap: no
        vht40: yes
    stp-encapsulation: no
    new-password-api: yes

    security-level:
        cloud-control2: yes
        interface: yes

    system:
        cpuload: 1
        memory: 167648/262144
```



```

        uptime: 5742864

        backhaul:
        uplink: WifiMaster1/WifiStation0
          root: 8000.50:ff:20:9c:21:86
        bridge: 8000.50:ff:20:9c:21:86
          cost: 50
          ap: WifiMaster1/Backhaul0
          psm: no
          mld: no
        authenticated: yes
          txrate: 720
          uptime: 4775389
          ht: 80
          mode: 11ax
          gi: 800
          rssi: -61
          mcs: 7
          txss: 2
          ebf: yes
          dl-mu: yes
          ul-mu: yes
          dl-ofdma: yes
          pmf: yes
          security: wpa3-psk

          port:
            label: 0
          appearance: gray-rj45
            link: up
            speed: 1000
            duplex: full

          rci:
            errors: 0

```

History

| Version | Description                                             |
|---------|---------------------------------------------------------|
| 2.15    | The <b>show mws member</b> command has been introduced. |

### 3.146.72 show ndns

|                 |                                                                                                                                                   |
|-----------------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| Description     | Show KeenDNS parameters from the latest request to the server (see <a href="#">ndns get-booked</a> and <a href="#">ndns get-update</a> commands). |
| Prefix no       | No                                                                                                                                                |
| Change settings | No                                                                                                                                                |
| Multiple input  | No                                                                                                                                                |

**Synopsis****(show)> ndns****Example**

```
(show)> ndns

    name: test
    booked: test
    domain: keenetic.pro
    address: 0.0.0.0
    address6: ::
    updated: yes
    access: cloud
    access6: cloud
    xns: ub5

    ttp:
    direct: no
    interface: GigabitEthernet1
    address: 193.0.174.200
    address6: ::

    tunnel:
    client: *
    target: *:80
    target-local: 192.168.133.40:49840
    target-remote: *:80
    default-fqdn: keenetic.io
    destination: 192.168.133.40:443
    dialback: ndns
    timeout: 30
    uptime: 8
    idle: 0
    linger: 8073
```

**History**

| Version | Description                                       |
|---------|---------------------------------------------------|
| 2.07    | The <b>show ndns</b> command has been introduced. |

**3.146.73 show netfilter****Description**

Show information about the firewall working. Need to provide remote technical support.

**Prefix no**

No

**Change settings**

No

**Multiple input**

No

**Synopsis****(show)> netfilter**

| History | Version | Description                                            |
|---------|---------|--------------------------------------------------------|
|         | 2.00    | The <b>show netfilter</b> command has been introduced. |

## 3.146.74 show nextdns availability

**Description** Check and show *NextDNS* availability.

**Prefix no** No

**Change settings** No

**Multiple input** No

**Synopsis** `(show)> nextdns availability`

**Example** `(show)> nextdns availability`

```
available: yes
port: 53
doh-supported: yes
doh-available: yes
```

| History | Version | Description                                                       |
|---------|---------|-------------------------------------------------------------------|
|         | 3.08    | The <b>show nextdns availability</b> command has been introduced. |

## 3.146.75 show nextdns profiles

**Description** Show *NextDNS* profiles.

**Prefix no** No

**Change settings** No

**Multiple input** No

**Synopsis** `(show)> nextdns profiles`

**Example** `(show)> nextdns profiles`

```
profiles:
  profile:
    name: No filtering
    token: 0

  profile:
    name: My First Configuration
    token: 1f3a36
```

```
NextDns::Client: Loaded profiles.
```

**History**

| Version | Description                                                   |
|---------|---------------------------------------------------------------|
| 3.08    | The <b>show nextdns profiles</b> command has been introduced. |

## 3.146.76 show ntce applications

**Description** Show the list of applications supported by the [NTCE](#) service.

**Prefix no** No

**Change settings** No

**Multiple input** No

**Synopsis** (show)> **ntce applications**

**Example**

```
(show)> ntce applications

  application:
    id-num: 1
    short: facebook
    long: Facebook
    group-id: 2065
    group-long: Social
    groupset-id: 4
groupset-short-id: surfing
groupset-long-id: Web surfing

  application:
    id-num: 2
    short: magicjack
    long: magicJack
    group-id: 2054
    group-long: Voice over IP
    groupset-id: 0
groupset-short-id: calling
groupset-long-id: Calling and conferencing

  application:
    id-num: 3
    short: itunes
    long: iTunes
    group-id: 2056
    group-long: Streaming
    groupset-id: 2
groupset-short-id: streaming
groupset-long-id: Video & Audio streaming
```

```

application:
    id-num: 4
    short: myspace
    long: MySpace
    group-id: 2065
    group-long: Social
    groupset-id: 4
groupset-short-id: surfing
groupset-long-id: Web surfing

application:
    id-num: 5
    short: facetime
    long: FaceTime
    group-id: 2054
    group-long: Voice over IP
    groupset-id: 0
groupset-short-id: calling
groupset-long-id: Calling and conferencing

application:
    id-num: 6
    short: truphone
    long: Truphone
    group-id: 2054
    group-long: Voice over IP
    groupset-id: 0
groupset-short-id: calling
groupset-long-id: Calling and conferencing

application:
    id-num: 7
    short: twitter
    long: Twitter
    group-id: 2065
    group-long: Social
    groupset-id: 4
groupset-short-id: surfing
groupset-long-id: Web surfing

application:
    id-num: 8
    short: xbox
    long: XBOX gaming console
    group-id: 2050
    group-long: Gaming
    groupset-id: 1
groupset-short-id: gaming
groupset-long-id: Gaming

application:
    id-num: 9
    short: realmedia

```

```

        long: RealMedia
        group-id: 2088
        group-long: Removed
        groupset-id: 5
groupset-short-id: other
groupset-long-id: Other

    application:
        id-num: 10
        short: google-mail
        long: Google Mail
        group-id: 2059
        group-long: Mail
        groupset-id: 3
groupset-short-id: work
groupset-long-id: Work & Learn from home

```

**History**

| Version | Description                                                    |
|---------|----------------------------------------------------------------|
| 3.07    | The <b>show ntce applications</b> command has been introduced. |

## 3.146.77 show ntce attributes

**Description** Show the list of attributes supported by the [NTCE](#) service.

**Prefix no** No

**Change settings** No

**Multiple input** No

**Synopsis** (show)> **ntce attributes**

**Example**

```

(show)> ntce attributes

    attribute:
        id-num: 1
        short: encrypted
        long: Indicates that the current connection is ►
encrypted traffic.

    attribute:
        id-num: 2
        short: audio
        long: Indicates that the current connection is ►
an audio or voice signal.

    attribute:
        id-num: 3
        short: out

```

```

        long: Indicates that the current connection is ▶
a landline call, e.g. a call to a home phone.

        attribute:
            id-num: 4
            short: video
            long: Indicates that the current connection is ▶
a video signal.

        attribute:
            id-num: 5
            short: file-transfer
            long: Indicates that the current connection is ▶
a file transfer.

        attribute:
            id-num: 6
            short: web
            long: Indicates that the current connection is ▶
a surf the Internet session.

        attribute:
            id-num: 7
            short: chat
            long: Indicates that the current connection is ▶
a chat session.

        attribute:
            id-num: 8
            short: mail
            long: Indicates that the current connection is ▶
mail traffic.

        attribute:
            id-num: 9
            short: stream
            long: Indicates that the current connection is ▶
a continues unidirectional stream of audio and / or video.

        attribute:
            id-num: 10
            short: android
            long: Indicates that the client side uses the ▶
operating system Android.

        attribute:
            id-num: 11
            short: ios
            long: Indicates that the client side uses the ▶
operating system iOS.

        attribute:
            id-num: 12
            short: windows-mobile

```

```
        long: Indicates that the client side uses the ►
operating system Windows Mobile.

        attribute:
            id-num: 13
            short: blackberry
            long: Indicates that the client side uses the ►
operating system Blackberry.

        attribute:
            id-num: 14
            short: picture
            long: Indicates that the current connection ►
transfers pictures.

        attribute:
            id-num: 15
            short: ddl
            long: Indicates that the current connection is ►
a Direct Download Host.

        attribute:
            id-num: 16
            short: google
            long: Indicates that the current connection is ►
a Google service.

        attribute:
            id-num: 17
            short: outlook_web_access
            long: Indicates that the current connection ►
uses the Microsoft Exchange Outlook Web Access as authentication ►
mechanism.

        attribute:
            id-num: 18
            short: amazon-cloud
            long: Indicates that the current connection is ►
a service of Amazon Cloud.

        attribute:
            id-num: 19
            short: apache
            long: Indicates that the server side is an ►
Apache server.

        attribute:
            id-num: 20
            short: mysql-server
            long: Indicates that the server side is a MySQL ►
database server.

        attribute:
            id-num: 21
```



```

        short: mariadb-server
        long: Indicates that the server side is a ►
MariaDB database server.

    attribute:
        id-num: 22
        short: ntlm
        long: Current connection uses NTLM as ►
authentication mechanism.

    attribute:
        id-num: 23
        short: microsoft-windows
        long: Indicates that the client side is the ►
operating system Microsoft Windows.

    attribute:
        id-num: 24
        short: chrome
        long: Indicates that the client side is the ►
operating system Chrome.

    attribute:
        id-num: 25
        short: akamai-cloud
        long: Indicates that the current connection is ►
a service of Akamai Cloud.

    attribute:
        id-num: 26
        short: dox
        long: Indicates that the current connection is ►
DoT (DNS over TLS) or DoH (DNS over HTTPS).

    attribute:
        id-num: 27
        short: rcs
        long: Indicates that the current connection is ►
RCS (Rich Communication Services).
```

**History**

| Version | Description                                                  |
|---------|--------------------------------------------------------------|
| 3.07    | The <b>show ntce attributes</b> command has been introduced. |

**3.146.78 show ntce filter profile**

**Description** Show system list of [NTCE](#) filter profiles.

**Prefix no** No

**Change settings** No

**Multiple input** No

**Synopsis** (show)> **ntce filter profile** [ <name> ]

**Arguments**

| Argument | Value  | Description                                                                                                                            |
|----------|--------|----------------------------------------------------------------------------------------------------------------------------------------|
| name     | String | The <a href="#">NTCE</a> filter name. You can see the list of available filters with help of <b>ntce filter profile</b> [Tab] command. |

**Example**

```
(show)> ntce filter profile
```

```
profile:
  name: test
  type: deny
  schedule:
schedule-active: no
```

```
profile:
  name: test2
  type: deny
  schedule:
schedule-active: no
```

```
(show)> ntce filter profile test
```

```
profile:
  name: test
  type: deny
  schedule:
schedule-active: no
```

**History**

| Version | Description                                                      |
|---------|------------------------------------------------------------------|
| 4.02    | The <b>show ntce filter profile</b> command has been introduced. |

## 3.146.79 show ntce groups

**Description** Show the list of groups supported by the [NTCE](#) service.

**Prefix no** No

**Change settings** No

**Multiple input** No

**Synopsis** (show)> **ntce groups**

**Example**

```
(show)> ntce groups

      group:
        id-num: 2048
        long: Generic
      groupset-id: 5
groupset-short-id: other
groupset-long-id: Other

      group:
        id-num: 2049
        long: Peer to Peer
      groupset-id: 6
groupset-short-id: filetransferring
groupset-long-id: File transferring

      group:
        id-num: 2050
        long: Gaming
      groupset-id: 1
groupset-short-id: gaming
groupset-long-id: Gaming

      group:
        id-num: 2051
        long: Tunnel
      groupset-id: 3
groupset-short-id: work
groupset-long-id: Work & Learn from home

      group:
        id-num: 2052
        long: Business
      groupset-id: 3
groupset-short-id: work
groupset-long-id: Work & Learn from home

      group:
        id-num: 2053
        long: E-Commerce
      groupset-id: 3
groupset-short-id: work
groupset-long-id: Work & Learn from home

      group:
        id-num: 2054
        long: Voice over IP
      groupset-id: 0
groupset-short-id: calling
groupset-long-id: Calling and conferencing

      group:
        id-num: 2055
        long: Messaging
```

```
groupset-id: 0
groupset-short-id: calling
groupset-long-id: Calling and conferencing

group:
  id-num: 2056
  long: Streaming
groupset-id: 2
groupset-short-id: streaming
groupset-long-id: Video & Audio streaming

group:
  id-num: 2057
  long: Mobile
groupset-id: 0
groupset-short-id: calling
groupset-long-id: Calling and conferencing

group:
  id-num: 2058
  long: Remote Control
groupset-id: 3
groupset-short-id: work
groupset-long-id: Work & Learn from home

group:
  id-num: 2059
  long: Mail
groupset-id: 3
groupset-short-id: work
groupset-long-id: Work & Learn from home

group:
  id-num: 2060
  long: Network Management
groupset-id: 5
groupset-short-id: other
groupset-long-id: Other

group:
  id-num: 2061
  long: Database
groupset-id: 3
groupset-short-id: work
groupset-long-id: Work & Learn from home

group:
  id-num: 2062
  long: Filetransfer
groupset-id: 6
groupset-short-id: filetransferring
groupset-long-id: File transferring

group:
```

```

        id-num: 2063
        long: Web
    groupset-id: 4
groupset-short-id: surfing
groupset-long-id: Web surfing

    group:
        id-num: 2064
        long: Conference
    groupset-id: 0
groupset-short-id: calling
groupset-long-id: Calling and conferencing

    group:
        id-num: 2065
        long: Social
    groupset-id: 4
groupset-short-id: surfing
groupset-long-id: Web surfing

    group:
        id-num: 2066
        long: Sharehosting
    groupset-id: 6
groupset-short-id: filetransferring
groupset-long-id: File transferring

    group:
        id-num: 2067
        long: Deprecated
    groupset-id: 5
groupset-short-id: other
groupset-long-id: Other

    group:
        id-num: 2068
        long: Industrial
    groupset-id: 5
groupset-short-id: other
groupset-long-id: Other

    group:
        id-num: 2069
        long: Encrypted
    groupset-id: 5
groupset-short-id: other
groupset-long-id: Other

    group:
        id-num: 2070
        long: Advertisement and Analytic Services
    groupset-id: 5
groupset-short-id: other
groupset-long-id: Other

```

```
group:
  id-num: 2071
  long: News
groupset-id: 4
groupset-short-id: surfing
groupset-long-id: Web surfing

group:
  id-num: 2072
  long: Health and Fitness
groupset-id: 5
groupset-short-id: other
groupset-long-id: Other

group:
  id-num: 2073
  long: Cloud and CDN Services
groupset-id: 5
groupset-short-id: other
groupset-long-id: Other

group:
  id-num: 2074
  long: Navigation
groupset-id: 4
groupset-short-id: surfing
groupset-long-id: Web surfing

group:
  id-num: 2075
  long: Finance
groupset-id: 5
groupset-short-id: other
groupset-long-id: Other

group:
  id-num: 2076
  long: Travel and Transportation
groupset-id: 5
groupset-short-id: other
groupset-long-id: Other

group:
  id-num: 2077
  long: Pornography
groupset-id: 5
groupset-short-id: other
groupset-long-id: Other

group:
  id-num: 2078
  long: Books and Magazines
groupset-id: 5
```

```

groupset-short-id: other
groupset-long-id: Other

    group:
        id-num: 2079
        long: Audio Entertainment
    groupset-id: 2
groupset-short-id: streaming
groupset-long-id: Video & Audio streaming

    group:
        id-num: 2080
        long: Education
    groupset-id: 5
groupset-short-id: other
groupset-long-id: Other

    group:
        id-num: 2081
        long: M2M and IoT
    groupset-id: 3
groupset-short-id: work
groupset-long-id: Work & Learn from home

    group:
        id-num: 2082
        long: Device Security
    groupset-id: 4
groupset-short-id: surfing
groupset-long-id: Web surfing

    group:
        id-num: 2083
        long: Multimedia Service Providers
    groupset-id: 2
groupset-short-id: streaming
groupset-long-id: Video & Audio streaming

    group:
        id-num: 2084
        long: Organizers
    groupset-id: 3
groupset-short-id: work
groupset-long-id: Work & Learn from home

    group:
        id-num: 2085
        long: Enterprise Services
    groupset-id: 4
groupset-short-id: surfing
groupset-long-id: Web surfing

    group:
        id-num: 2086

```

```

        long: App-Stores and OS Updates
    groupset-id: 6
groupset-short-id: filetransferring
groupset-long-id: File transferring

    group:
        id-num: 2087
        long: Browsers
    groupset-id: 4
groupset-short-id: surfing
groupset-long-id: Web surfing

    group:
        id-num: 2088
        long: Removed
    groupset-id: 5
groupset-short-id: other
groupset-long-id: Other

    group:
        id-num: 2089
        long: Moved
    groupset-id: 5
groupset-short-id: other
groupset-long-id: Other

```

**History**

| Version | Description                                              |
|---------|----------------------------------------------------------|
| 3.07    | The <b>show ntce groups</b> command has been introduced. |

**3.146.80 show ntce groupsets**

**Description** Show the list of groupsets supported by the [NTCE](#) service.

**Prefix no** No

**Change settings** No

**Multiple input** No

**Synopsis** (show)> **ntce groupsets**

**Example** (show)> **ntce groupsets**

```

groupset:
    id-num: 0
    short: calling
    long: Calling and conferencing

groupset:
    id-num: 1

```



```

        short: gaming
        long: Gaming

    groupset:
        id-num: 2
        short: streaming
        long: Video & Audio streaming

    groupset:
        id-num: 3
        short: work
        long: Work & Learn from home

    groupset:
        id-num: 4
        short: surfing
        long: Web surfing

    groupset:
        id-num: 5
        short: other
        long: Other

    groupset:
        id-num: 6
        short: filetransferring
        long: File transferring

```

History

| Version | Description                                                 |
|---------|-------------------------------------------------------------|
| 3.07    | The <b>show ntce groupsets</b> command has been introduced. |

### 3.146.81 show ntce hosts

**Description** Show application statistics, which *NTCE* service has detected for hosts.

**Prefix no** No

**Change settings** No

**Multiple input** No

**Synopsis** (show)> **ntce hosts**

**Example** (show)> **ntce hosts**

```

        host:
            mac: 04:d4:c4:54:31:12

        application:

```

```
        id-num: 7
        short: twitter
        long: Twitter
        group-id: 2065
        group-long: Social
        groupset-id: 4
        groupset-short-id: surfing
        groupset-long-id: Web surfing
groupset-service-class: 2
        rxbytes: 62274
        txbytes: 6020

application:
        id-num: 43
        short: instagram
        long: Instagram
        group-id: 2065
        group-long: Social
        groupset-id: 4
        groupset-short-id: surfing
        groupset-long-id: Web surfing
groupset-service-class: 2
        rxbytes: 57606
        txbytes: 11148

application:
        id-num: 428
        short: spotify
        long: Spotify
        group-id: 2079
        group-long: Audio Entertainment
        groupset-id: 2
        groupset-short-id: streaming
        groupset-long-id: Video & Audio streaming
groupset-service-class: 2
        rxbytes: 155317
        txbytes: 80526

application:
        id-num: 438
        short: whatsapp
        long: WhatsApp
        group-id: 2055
        group-long: Messaging
        groupset-id: 0
        groupset-short-id: calling
        groupset-long-id: Calling and conferencing
groupset-service-class: 2
        rxbytes: 826
        txbytes: 706

application:
        id-num: 461
        short: google-cloud
```

```

        long: Google Cloud
        group-id: 2073
        group-long: Cloud and CDN Services
        groupset-id: 5
        groupset-short-id: other
        groupset-long-id: Other
groupset-service-class: 2
        rxbytes: 313
        txbytes: 352

application:
        id-num: 498
        short: telegram
        long: Telegram
        group-id: 2055
        group-long: Messaging
        groupset-id: 0
        groupset-short-id: calling
        groupset-long-id: Calling and conferencing
groupset-service-class: 2
        rxbytes: 109895
        txbytes: 15561

application:
        id-num: 559
        short: google-play
        long: Google Play
        group-id: 2086
        group-long: App-Stores and OS Updates
        groupset-id: 6
        groupset-short-id: filetransferring
        groupset-long-id: File transferring
groupset-service-class: 2
        rxbytes: 16736
        txbytes: 28451

application:
        id-num: 611
        short: zendesk
        long: ZenDesk
        group-id: 2052
        group-long: Business
        groupset-id: 3
        groupset-short-id: work
        groupset-long-id: Work & Learn from home
groupset-service-class: 2
        rxbytes: 101697
        txbytes: 187527

application:
        id-num: 621
        short: slack
        long: Slack
        group-id: 2064

```

```
        group-long: Conference
        groupset-id: 0
        groupset-short-id: calling
        groupset-long-id: Calling and conferencing
groupset-service-class: 2
        rxbytes: 30568
        txbytes: 3650

application:
        id-num: 632
        short: google-services
        long: Google Shared Services
        group-id: 2085
        group-long: Enterprise Services
        groupset-id: 4
        groupset-short-id: surfing
        groupset-long-id: Web surfing
groupset-service-class: 2
        rxbytes: 614512
        txbytes: 202174

application:
        id-num: 664
        short: microsoft-services
        long: Microsoft Services
        group-id: 2085
        group-long: Enterprise Services
        groupset-id: 4
        groupset-short-id: surfing
        groupset-long-id: Web surfing
groupset-service-class: 2
        rxbytes: 20243
        txbytes: 10699

application:
        id-num: 700
        short: fastly
        long: Fastly
        group-id: 2073
        group-long: Cloud and CDN Services
        groupset-id: 5
        groupset-short-id: other
        groupset-long-id: Other
groupset-service-class: 2
        rxbytes: 14859
        txbytes: 3147

application:
        id-num: 703
        short: cloudflare
        long: Cloudflare
        group-id: 2073
        group-long: Cloud and CDN Services
        groupset-id: 5
```

```

    groupset-short-id: other
    groupset-long-id: Other
groupset-service-class: 2
    rxbytes: 2172
    txbytes: 3593

application:
    id-num: 719
    short: google-apis
    long: Google APIs
    group-id: 2052
    group-long: Business
    groupset-id: 3
    groupset-short-id: work
    groupset-long-id: Work & Learn from home
groupset-service-class: 2
    rxbytes: 11837
    txbytes: 7602

application:
    id-num: 933
    short: bamtech-media
    long: BAMTech Media
    group-id: 2083
    group-long: Multimedia Service Providers
    groupset-id: 2
    groupset-short-id: streaming
    groupset-long-id: Video & Audio streaming
groupset-service-class: 2
    rxbytes: 4734
    txbytes: 6006

os-id: 3
os-long: Windows

host:
    mac: 04:d4:c4:54:31:12
    via: 04:d4:c4:54:31:12
    ip: 192.168.11.19
    hostname: MyHost
    name: MyHost

interface:
    id: Bridge0
    name: Home
    description: Home network

    dhcp:
        static: yes

registered: yes
    access: permit
schedule:
    active: yes

```

```
rxbytes: 0
txbytes: 0
uptime: 9083
first-seen: 9097
last-seen: 1
link: up
auto-negotiation: yes
speed: 1000
duplex: yes
port: 2

traffic-shape:
    rx: 0
    tx: 0
    mode: mac
    schedule:
```

#### History

| Version | Description                                             |
|---------|---------------------------------------------------------|
| 3.07    | The <b>show ntce hosts</b> command has been introduced. |

## 3.146.82 show ntce oses

**Description** Show the list of OSES supported by the [NTCE](#) service.

**Prefix no** No

**Change settings** No

**Multiple input** No

**Synopsis** (show)> **ntce oses**

**Example** (show)> **ntce oses**

```
os:
id-num: 1
long: Not detected

os:
id-num: 2
long: Other

os:
id-num: 3
long: Windows

os:
id-num: 4
long: Linux
```

```

OS:
id-num: 5
    long: OS X

OS:
id-num: 6
    long: iOS

OS:
id-num: 7
    long: Symbian

OS:
id-num: 8
    long: Android

OS:
id-num: 9
    long: Blackberry

OS:
id-num: 10
    long: WindowsMobile

OS:
id-num: 11
    long: WindowsPhone

OS:
id-num: 12
    long: Chrome

OS:
id-num: 13
    long: Darwin

```

History

| Version | Description                                            |
|---------|--------------------------------------------------------|
| 3.07    | The <b>show ntce oses</b> command has been introduced. |

### 3.146.83 show ntce status

**Description** Show *NTCE* service info.

**Prefix no** No

**Change settings** No

**Multiple input** No

**Synopsis** (show)> **ntce status**

**Example**

```
(show)> ntce status

conntrack:
    hosts: 2
    applications: 16
    applications-flows: 63
    applications-events: 0
    groups: 12
    groups-flows: 64
    groups-events: 0

    memory:
    applications-flows: 1512
    applications-events: 0
    applications: 512
    groups-flows: 1536
    groups-events: 0
    groups: 384
    hosts: 72
    total: 4016

    event:
    count: 0

    memory:
    total: 0

database:
    hosts: 1
    applications: 54
    groups: 30
    attributes: 6

    memory:
    applications: 2372976
    groups: 1318320
    attributes: 263664
    total: 3954960
```

**History**

| Version | Description                                              |
|---------|----------------------------------------------------------|
| 3.07    | The <b>show ntce status</b> command has been introduced. |

## 3.146.84 show ntp status

**Description**

Show *NTP* system settings.

**NTP state general info**

- ❶ The time elapsed since the last synchronization in seconds.
- ❷ The indicator of the last synchronization.



- ③ The indicator of the initial synchronization.
- ④ Time is taken from NDSS server.
- ⑤ Time is set by the user manually.

**Prefix no** No

**Change settings** No

**Multiple input** No

**Synopsis** `(show)> ntp status`

**Example** `(show)> ntp status`

```
status:
  elapsed: 435146 ①
  server: 1.pool.ntp.org
  accurate: yes ②
  synchronized: yes ③
  ndsstime: no ④
  usertime: no ⑤
```

**History**

| Version | Description                                             |
|---------|---------------------------------------------------------|
| 2.00    | The <b>show ntp status</b> command has been introduced. |

## 3.146.85 show object-group fqdn

**Description** Show the specified *FQDN* object group. If you use no argument, the entire list of FQDN object groups will be displayed.

**Prefix no** No

**Change settings** No

**Multiple input** No

**Synopsis** `(show)> object-group fqdn [ <group> ]`

**Arguments**

| Argument | Value         | Description                 |
|----------|---------------|-----------------------------|
| group    | <i>String</i> | The FQDN object group name. |

**Example** `(show)> object-group fqdn example`

```
group:
  group-name: example
  enabled: yes
  ipv4-addresses: 3
```

```
ipv6-addresses: 4

    entry:
        fqdn: ogads-pa.clients6.google.com
        type: runtime
        deadline4: 143
        deadline6: 274
        fail-counter4: 0
        fail-counter6: 0
        parent: google.com

        ipv4:
            address: 216.58.210.138
            ttl: 168
        last-updated: 36

        ipv6:
            address: 2a00:1450:4026:802::200a
            ttl: 300
        last-updated: 36

    entry:
        fqdn: ogs.google.com
        type: runtime
        deadline4: 287
        deadline6: 297
        fail-counter4: 0
        fail-counter6: 0
        parent: google.com

        ipv4:
            address: 216.58.210.142
            ttl: 300
        last-updated: 27

        ipv6:
            address: 2a00:1450:4026:804::200e
            ttl: 300
        last-updated: 27

    entry:
        fqdn: google.com
        type: config
        deadline4: 2147483
        deadline6: 2147483
        fail-counter4: 0
        fail-counter6: 0
        ipv4:
        ipv6:

excluded-ipv4:
excluded-ipv6:
```

## History

| Version | Description                                                    |
|---------|----------------------------------------------------------------|
| 4.03    | The <b>show object-group fqdn</b> command has been introduced. |

## 3.146.86 show oc-server

**Description** Show current connections to the [OpenConnect](#) server.

**Prefix no** No

**Change settings** No

**Multiple input** No

**Synopsis** (show)> **oc-server**

**Example**

```
(show)> oc-server

      ndns-name: mywrk.keenetic.link
      fqdn: 12af.mywrk.keenetic.link
      secret: 123e45ed
has-ndns-certificate: yes

      tunnel:
clientaddress: 172.16.3.34
      username: mymy
      uptime: 30

      statistic:
      rxpackets: 121
rx-multicast-packets: 0
rx-broadcast-packets: 0
      rxbytes: 14715
      rxerrors: 0
      rxdropped: 0
      txpackets: 78
tx-multicast-packets: 0
tx-broadcast-packets: 0
      txbytes: 48265
      txerrors: 0
      txdropped: 0
      timestamp: 104530.202229
      last-overflow: 0.000000
```

## History

| Version | Description                                            |
|---------|--------------------------------------------------------|
| 4.02    | The <b>show oc-server</b> command has been introduced. |

## 3.146.87 show ping-check

**Description** Show *Ping Check* profile status. If you use no arguments, the command displays information about all profiles.

**Prefix no** No

**Change settings** No

**Multiple input** No

**Synopsis** `(show)> ping-check [ <profile_name> ]`

**Arguments**

| Argument     | Value         | Description   |
|--------------|---------------|---------------|
| profile_name | <i>String</i> | Profile name. |

**Example**

```
(show)> ping-check

pingcheck:
  profile: TEST
  host: 8.8.8.8
  port: 80
  max-fails: 7
  timeout: 1
  mode: connect

  interface: ISP
  fail count: 0
  status: pass

pingcheck:
  profile: TEST1
  mode: icmp

pingcheck:
  profile: TEST2
  mode: icmp
```

**History**

| Version | Description                                             |
|---------|---------------------------------------------------------|
| 2.04    | The <b>show ping-check</b> command has been introduced. |

## 3.146.88 show processes

**Description** Show statistics of CPU usage by services and processes.

**Prefix no** No

**Change settings** No

**Multiple input**

No

**Synopsis**`(show)> processes`**Example**`(show)> processes`

```

process, id = NETBIOS browser:
  name: nqnd

  arg: -i

  arg: 50ff20001e87

  state: S (sleeping)
  pid: 629
  ppid: 192
  vm-size: 3188 kB
  vm-data: 1548 kB
  vm-stk: 136 kB
  vm-exe: 4 kB
  vm-lib: 1448 kB
  vm-swap: 0 kB
  threads: 1
  fds: 15

statistics:
  interval: 30

  cpu:
    now: 17319.483753
    min: 0
    max: 0
    avg: 0
    cur: 0

  service:
    configured: yes
    alive: yes
    started: yes
    state: STARTED

process, id = Dns::Proxy::Policy0:
  name: ndnproxy

  arg: -c

  arg: /var/ndnproxy_Policy0.conf

  arg: -p

  arg: /var/ndnproxy_Policy0.pid

  state: S (sleeping)

```

```

pid: 630
ppid: 192
vm-size: 1676 kB
vm-data: 504 kB
vm-stk: 136 kB
vm-exe: 108 kB
vm-lib: 896 kB
vm-swap: 0 kB
threads: 1
fds: 10

statistics:
  interval: 30

  cpu:
    now: 17319.483764
    min: 0
    max: 0
    avg: 0
    cur: 0

  service:
    configured: yes
    alive: yes
    started: yes
    state: STARTED

```

**History**

| Version | Description                                            |
|---------|--------------------------------------------------------|
| 2.09    | The <b>show processes</b> command has been introduced. |

## 3.146.89 show running-config

**Description** Show current settings, that is file system: running-config contains, just like command **more** does.

**Prefix no** No

**Change settings** No

**Multiple input** No

**Synopsis** (show)> **running-config**

**Example**

```

(show)> running-config
! $$$ Model: Keenetic Hopper
! $$$ Version: 2.06.1
! $$$ Agent: default
! $$$ Md5 checksum: 8c4b233db9ff35f1ea2fff277e36d9ea
! $$$ Username: admin
system

```

```

set net.ipv4.ip_forward 1
set net.ipv4.tcp_fin_timeout 30
set net.ipv4.tcp_keepalive_time 120
set net.ipv4.neigh.default.gc_thresh1 256
set net.ipv4.neigh.default.gc_thresh2 1024
set net.ipv4.neigh.default.gc_thresh3 2048
set net.ipv6.neigh.default.gc_thresh1 256
set net.ipv6.neigh.default.gc_thresh2 1024
set net.ipv6.neigh.default.gc_thresh3 2048
set net.netfilter.nf_conntrack_tcp_timeout_established 1200
set net.netfilter.nf_conntrack_max 32768
set vm.swappiness 60
set vm.overcommit_memory 0
set vm.vfs_cache_pressure 1000
set dev.usb.force_usb2 0
set net.ipv6.conf.all.forwarding 1
domainname WORKGROUP
hostname Keenetic-1111
caption default
!
isolate-private
user admin
    tag cli
    tag http
    tag cifs
    tag printers
    tag webdav
!
interface GigabitEthernet0
    up
!
interface GigabitEthernet0/0
    rename 1
    switchport mode access
    switchport mode trunk
    switchport access vlan 1
    switchport trunk vlan 3
    up
!
interface GigabitEthernet0/1
    rename 2
    switchport mode access
    switchport mode trunk
    switchport access vlan 1
    switchport trunk vlan 3
    up
!
interface GigabitEthernet0/2
    rename 3
    switchport mode access
    switchport mode trunk
    switchport access vlan 1
    switchport trunk vlan 3
    up

```

```
!  
interface GigabitEthernet0/Vlan1  
    description "Home VLAN"  
    ip dhcp client dns-routes  
    up  
!  
interface GigabitEthernet0/Vlan3  
    description "Guest VLAN"  
    ip dhcp client dns-routes  
    up  
!  
interface GigabitEthernet1  
    rename ISP  
    description "Broadband connection"  
    mac address factory wan  
    security-level public  
    ip address dhcp  
    ip dhcp client dns-routes  
    ip global 700  
    igmp upstream  
    ipv6 address auto  
    ipv6 prefix auto  
    ipv6 name-servers auto  
    up  
!  
interface GigabitEthernet1/0  
    rename 0  
    up  
!  
interface WifiMaster0  
    compatibility BGN+AX  
    tx-burst  
    rekey-interval 86400  
    beamforming explicit  
    vht  
    downlink-mumimo  
    uplink-mumimo  
    spatial-reuse  
    up  
!  
interface WifiMaster0/AccessPoint0  
    rename AccessPoint  
    description "Wi-Fi access point"  
    mac access-list type none  
    wps  
    authentication wpa-psk ns3 BMclwe4ZX9/fbJtDiM  
    encryption enable  
    encryption wpa2  
    ip dhcp client dns-routes  
    ssid Keenetic-1111  
    wmm  
    rrm  
    ft mdid PX  
    ft enable
```



```

        up
    !
interface WifiMaster0/AccessPoint1
    rename GuestWiFi
    description "Guest access point"
    mac access-list type none
    ip dhcp client dns-routes
    ssid Guest
    wmm
    rrm
    ft mdid vX
    ft enable
    down
!
interface WifiMaster0/AccessPoint2
    mac access-list type none
    security-level private
    ip dhcp client dns-routes
    down
!
interface WifiMaster0/AccessPoint3
    mac access-list type none
    security-level private
    ip dhcp client dns-routes
    down
!
interface WifiMaster0/AccessPoint4
    mac access-list type none
    security-level private
    ip dhcp client dns-routes
    down
!
interface WifiMaster0/AccessPoint5
    mac access-list type none
    security-level private
    ip dhcp client dns-routes
    down
!
interface WifiMaster0/AccessPoint6
    mac access-list type none
    security-level private
    ip dhcp client dns-routes
    down
!
interface WifiMaster0/WifiStation0
    security-level public
    encryption disable
    ip dhcp client dns-routes
    down
!
interface WifiMaster1
    compatibility AN+AC+AX
    tx-burst
    rekey-interval 86400

```

```
    beamforming explicit
    target-waketime
    downlink-mumimo
    uplink-mumimo
    spatial-reuse
    up
!
interface WifiMaster1/AccessPoint0
    rename AccessPoint_5G
    description "5GHz Wi-Fi access point"
    mac access-list type none
    wps
    authentication wpa-psk ns3 BMc0w7dA7GF04ZX9/fbJtDiM
    encryption enable
    encryption wpa2
    ip dhcp client dns-routes
    ssid Keenetic-1111
    wmm
    rrm
    ft mdid PX
    ft enable
    follow AccessPoint
    up
!
interface WifiMaster1/AccessPoint1
    rename GuestWiFi_5G
    description "5GHz Guest access point"
    mac access-list type none
    encryption disable
    ip dhcp client dns-routes
    ssid Guest
    rrm
    ft mdid vX
    ft enable
    follow GuestWiFi
    down
!
interface WifiMaster1/AccessPoint2
    mac access-list type none
    security-level private
    ip dhcp client dns-routes
    down
!
interface WifiMaster1/AccessPoint3
    mac access-list type none
    security-level private
    ip dhcp client dns-routes
    down
!
interface WifiMaster1/AccessPoint4
    mac access-list type none
    security-level private
    ip dhcp client dns-routes
    down
```

```

!
interface WifiMaster1/AccessPoint5
    mac access-list type none
    security-level private
    ip dhcp client dns-routes
    down
!
interface WifiMaster1/AccessPoint6
    mac access-list type none
    security-level private
    ip dhcp client dns-routes
    down
!
interface WifiMaster1/WifiStation0
    security-level public
    encryption disable
    ip dhcp client dns-routes
    down
!
interface Bridge0
    rename Home
    description "Home network"
    inherit GigabitEthernet0/Vlan1
    include AccessPoint
    include AccessPoint_5G
    mac access-list type none
    security-level private
    ip address 192.168.1.1 255.255.255.0
    ip dhcp client dns-routes
    igmp downstream
    band-steering
    iapp key ns3 4k/XpM98jF123131NK9eur5Jk7Cgq4PpBm4M6U+hwh27
    up
!
interface Bridgel
    rename Guest
    description "Guest network"
    traffic-shape rate 5120
    inherit GigabitEthernet0/Vlan3
    include GuestWiFi
    include GuestWiFi_5G
    mac access-list type none
    peer-isolation
    security-level protected
    ip address 10.1.30.1 255.255.255.0
    ip dhcp client dns-routes
    iapp key ns3 +lIvt9ohKnXsiIt131312jPtqCJfqtVjrdm/MCVxzNYOH
    down
!
ip dhcp pool _WEBADMIN
    range 192.168.1.33 192.168.1.152
    bind Home
    enable
!

```

```

ip dhcp pool _WEBADMIN_GUEST_AP
    range 10.1.30.33 10.1.30.152
    bind Guest
    enable
!
ip http security-level private
ip http lockout-policy 5 15 3
ip http ssl enable
ip http webdav
    security-level public
!
ip nat Home
ip nat Guest
ip telnet
    security-level private
    lockout-policy 5 15 3
!
ipv6 subnet Default
    bind Home
    mode slaac
    prefix length 64
    number 0
!
ipv6 local-prefix default
ppe software
ppe hardware
upnp lan Home
service dhcp
service dns-proxy
service igmp-proxy
service http
service cifs
service telnet
service ntp
service upnp
cifs
    automount
    permissive
!
dns-proxy
    rebind-protect auto
!

```

**History**

| Version | Description                                                 |
|---------|-------------------------------------------------------------|
| 2.00    | The <b>show running-config</b> command has been introduced. |

**3.146.90 show schedule****Description**

Show parameters of defined schedule. If you use no argument, the entire list of system schedules will be displayed.

**Prefix no** No

**Change settings** No

**Multiple input** No

**Synopsis** `(show)> schedule [ <name> ]`

**Arguments**

| Argument | Value         | Description      |
|----------|---------------|------------------|
| name     | <i>String</i> | A schedule name. |

**Example**

```
(show)> schedule 123

    schedule, name = 123:
        action, type = start, left = 561514, next = yes:
            dow: Tue
            time: 01:29

        action, type = stop, left = 564274:
            dow: Tue
            time: 02:15
```

**History**

| Version | Description                                           |
|---------|-------------------------------------------------------|
| 2.06    | The <b>show schedule</b> command has been introduced. |

## 3.146.91 show self-test

**Description** Show summary information about system activity. Need to provide remote technical support.

**Prefix no** No

**Change settings** No

**Multiple input** No

**Synopsis** `(show)> self-test`

**History**

| Version | Description                                            |
|---------|--------------------------------------------------------|
| 2.00    | The <b>show self-test</b> command has been introduced. |

## 3.146.92 show site-survey

**Description** Show available wireless networks.

**Prefix no** No

**Change settings** No**Multiple input** No**Interface type** Radio**Synopsis** (show)> **site-survey** <name>**Arguments**

| Argument | Value            | Description                                                                                                                         |
|----------|------------------|-------------------------------------------------------------------------------------------------------------------------------------|
| name     | <i>Interface</i> | Full name or an alias of the interface. You can see the list of available interfaces with help of <b>site-survey</b> [Tab] command. |

**Example**

```
(show)> site-survey WifiMaster0
```

| SSID          |    | MAC               | Ch | Mode ▶ |
|---------------|----|-------------------|----|--------|
| Q             |    |                   |    |        |
| Hello_123     |    | 11:22:d4:70:97:f1 | 1  | ▶      |
| 11b/g/n       | 31 |                   |    |        |
| BRT           |    | 78:69:87:b3:9d:68 | 1  | ▶      |
| 11b/g/n       | 13 |                   |    |        |
| SVH34-34      |    | 23:bf:45:7b:0e:2e | 1  | ▶      |
| 11b/g/n       | 5  |                   |    |        |
| Keenetic-1234 |    | 56:f4:ab:56:9a:48 | 3  | ▶      |
| 11b/g/n       | 26 |                   |    |        |

```
(show)> site-survey WifiMaster1
```

| SSID              |    | MAC               | Ch | Mode ▶ |
|-------------------|----|-------------------|----|--------|
| Q                 |    |                   |    |        |
| Keenetic-1153 (5) |    | 34:ff:22:3d:69:fc | 36 | ▶      |
| 11a/n/ac          | 2  |                   |    |        |
| RT-5WiFi-87F8     |    | 15:a3:b8:e6:57:fa | 44 | ▶      |
| 11a/n/ac          | 42 |                   |    |        |
| GPON5             |    | 23:9a:34:b1:b1:26 | 48 | ▶      |
| 11a/n/ac          | 0  |                   |    |        |

**History**

| Version | Description                                              |
|---------|----------------------------------------------------------|
| 2.00    | The <b>show site-survey</b> command has been introduced. |

## 3.146.93 show snmp view

**Description** Show *SNMP* view status.**Prefix no** No

**Change settings** No**Multiple input** No**Synopsis** (show)> **snmp view**

**Example**

```
(show)> snmp view

view:
  id: client

include: .1.3.6.1

exclude: .1.3.6.1.2
```

**History**

| Version | Description                                            |
|---------|--------------------------------------------------------|
| 4.01    | The <b>show snmp view</b> command has been introduced. |

## 3.146.94 show ssh fingerprint

**Description** Show current SSH server keys.**Prefix no** No**Change settings** No**Multiple input** No**Synopsis** (show)> **ssh fingerprint**

**Example**

```
(show)> ssh fingerprint

rsa: MD5:d0:b0:d4:f7:da:7b:c0:e0:d0:c8:8f:ea:85:3c:09:00
rsa: SHA1:Nhxcg8KNeE62E8zAZJngImcrJkma
rsa: SHA256:lm7MyrIaq4qFGT/dyF/t8TbJk5tCzreeGuh03zaydu4
ecdsa: ►
MD5:a6:db:b4:fb:3c:b9:ae:31:ca:6d:ca:ed:62:73:a5:7e
ecdsa: SHA1:ndWg/dx/dP/P8rMkJcVC3XB8nFo
ecdsa: ►
SHA256:Wp1K9d8MsquQBtlBeBlpVlyKdCN1Vay3BtBwbj0xs+o
```

**History**

| Version | Description                                                  |
|---------|--------------------------------------------------------------|
| 2.12    | The <b>show ssh fingerprint</b> command has been introduced. |

## 3.146.95 show sstp-server

**Description** Show current connections to the [SSTP](#) server.

**Prefix no** No

**Change settings** No

**Multiple input** No

**Synopsis** `(show)> sstp-server`

**Example**

```
(show)> sstp-server

    enabled: yes
    ndns-name: mymy.keenetic.link
has-ndns-certificate: yes

    tunnel:
    clientaddress: 172.16.3.33
      username: mymy
      uptime: 29

    statistic:
      rxpackets: 121
    rx-multicast-packets: 0
    rx-broadcast-packets: 0
      rxbytes: 14715
      rxerrors: 0
      rxdropped: 0
      txpackets: 78
    tx-multicast-packets: 0
    tx-broadcast-packets: 0
      txbytes: 48265
      txerrors: 0
      txdropped: 0
      timestamp: 104530.202229
      last-overflow: 0.000000
```

**History**

| Version | Description                                              |
|---------|----------------------------------------------------------|
| 2.12    | The <b>show sstp-server</b> command has been introduced. |



### 3.146.96 show system

**Description** Show the general state of the system.

**System state general info**

- ❶ CPU load, percentage.
- ❷ Occupied and available memory info, kilobytes.
- ❸ Swap file usage info, kilobytes.
- ❹ System uptime from the start, seconds.

**Prefix no** No

**Change settings** No

**Multiple input** No

**Synopsis** (show)> **system**

**Example**

```
(config)> show system

hostname: Undefined
domainname: WORKGROUP
cpuload: 0 ❶
memory: 13984/28976 ❷
swap: 0/0 ❸
uptime: 153787 ❹
```

| History | Version | Description                                         |
|---------|---------|-----------------------------------------------------|
|         | 2.00    | The <b>show system</b> command has been introduced. |

### 3.146.97 show system country

**Description** Show country-specific configuration status depending on the factory region.

**Prefix no** No

**Change settings** No

**Multiple input** No

**Synopsis** (show)> **system country**

**Example**

```
(show)> system country

factory: EA
selected: KZ
default-language: ru

country:
```

```

        code: AM
        short-name: Armenia
default-language: en

        country:
            code: AZ
            short-name: Azerbaijan
default-language: en

        country:
            code: BY
            short-name: Belarus
default-language: ru

        country:
            code: KG
            short-name: Kyrgyzstan
default-language: en

        country:
            code: KZ
            short-name: Kazakhstan
default-language: ru

        country:
            code: RU
            short-name: Russian Federation
default-language: ru

        country:
            code: UZ
            short-name: Uzbekistan
default-language: en

```

**History**

| Version | Description                                                 |
|---------|-------------------------------------------------------------|
| 4.00    | The <b>show system country</b> command has been introduced. |

**3.146.98 show system cpustat**

**Description** Show device CPU usage.

**Prefix no** No

**Change settings** No

**Multiple input** No

**Synopsis** (show)> **system cpustat**

**Example**

```
(show)> system cpustat

interval: 36

  busy:
    cur: 1
    min: 0
    max: 11
    avg: 2

  user:
    cur: 0
    min: 0
    max: 10
    avg: 1

  nice:
    cur: 0
    min: 0
    max: 0
    avg: 0

  system:
    cur: 0
    min: 0
    max: 2
    avg: 0

  iowait:
    cur: 0
    min: 0
    max: 0
    avg: 0

  irq:
    cur: 0
    min: 0
    max: 0
    avg: 0

  sirq:
    cur: 0
    min: 0
    max: 0
    avg: 0
```

**History**

| Version | Description                                                 |
|---------|-------------------------------------------------------------|
| 2.09    | The <b>show system cpustat</b> command has been introduced. |

## 3.146.99 show tags

**Description** Show available authentication tags.

**Prefix no** No

**Change settings** No

**Multiple input** No

**Synopsis** (show)> **tags**

**Example** (show)> **tags**

```
tag: cli
tag: readonly
tag: http-proxy
tag: http
tag: printers
tag: cifs
tag: ftp
tag: ipsec-xauth
tag: ipsec-l2tp
tag: opt
tag: sstp
tag: torrent
tag: vpn
```

### History

| Version | Description                                       |
|---------|---------------------------------------------------|
| 2.00    | The <b>show tags</b> command has been introduced. |

## 3.146.100 show threads

**Description** Show the list of active threads in NDM.

**Prefix no** No

**Change settings** No

**Multiple input** No

**Synopsis** (show)> **threads**

**Example** (show)> **threads**

```
thread:
  name: Cloud agent service
  tid: 518
lock_list_complete: yes
locks:
```

```

        statistics:
            interval: 30

        cpu:
            now: 17771.481435
            min: 0
            max: 0
            avg: 0
            cur: 0

    thread:
        name: FTP brute force detection
        tid: 519
    lock_list_complete: yes
    locks:

        statistics:
            interval: 30

        cpu:
            now: 17771.481440
            min: 0
            max: 0
            avg: 0
            cur: 0

```

**History**

| Version | Description                                          |
|---------|------------------------------------------------------|
| 2.09    | The <b>show threads</b> command has been introduced. |

**3.146.101 show torrent status**

**Description** Show BitTorrent client status.

**Prefix no** No

**Change settings** No

**Multiple input** No

**Synopsis** (show)> **torrent status**

**Example** (show)> **torrent status**

```

        state: running
        rpc-port: 8090

```

**History**

| Version | Description                                                 |
|---------|-------------------------------------------------------------|
| 2.03    | The <b>show torrent status</b> command has been introduced. |

## 3.146.102 show upnp redirect

**Description** Show *UPnP* port translation rules. If you use no arguments, the entire list of translation rules will be displayed.

**Prefix no** No

**Change settings** No

**Multiple input** No

**Interface type** IP

**Synopsis** `(show)> upnp redirect [(<protocol> <interface> <port>) | <index>]`

### Arguments

| Argument  | Value            | Description                                               |
|-----------|------------------|-----------------------------------------------------------|
| protocol  | tcp              | Rules with <i>TCP</i> protocol will be displayed.         |
|           | udp              | Rules with <i>UDP</i> protocol will be displayed.         |
| interface | <i>Interface</i> | Rules with specified interface name will be displayed.    |
| port      | <i>Integer</i>   | Rules with specified port will be displayed.              |
| index     | <i>Integer</i>   | Rule with specified number in the list will be displayed. |

### Example

```
(show)> upnp redirect udp ISP 11175

entry:
  index: 1
  interface: ISP
  protocol: udp
  port: 11175
  to-address: 192.168.15.206
  to-port: 11175
  description: Skype UDP at 192.168.12.286:11175 (2024)
  packets: 0
  bytes: 0
```

### History

| Version | Description                                                |
|---------|------------------------------------------------------------|
| 2.00    | The <b>show upnp redirect</b> command has been introduced. |

## 3.146.103 show version

**Description** Show firmware version.

**Prefix no** No

**Change settings** No

**Multiple input** No

**Synopsis** (show)> **version**

**Example** (show)> **version**

```

release: 5.00.C.2.0-2
sandbox: preview
title: 5.0.2
arch: aarch64

ndm:
  exact: 0-a654284
  cdate: 3 Dec 2025

bsp:
  exact: 0-e7c92fbd89
  cdate: 3 Dec 2025

ndw:
  features: ►
dual_image,usb_3,usb_3_first,led_control,wifi_button,wifi5ghz,vht2ghz...
  components: ►
acl,afp,base,chilli,cloudcontrol,corewireless,ddns,dhcpd,dlna...

ndw3:
  version: 5.0.43

ndw4:
  version: 5.0.C.2.1

manufacturer: Keenetic Ltd.
vendor: Keenetic
series: KN
model: Sprinter (KN-3710)
hw_version: 12108000
hw_type: router
hw_id: KN-3710
device: Sprinter
consent: EA
region: EA
description: Keenetic Sprinter (KN-3710)

```

| History | Version | Description                                          |
|---------|---------|------------------------------------------------------|
|         | 2.00    | The <b>show version</b> command has been introduced. |

### 3.146.104 show vpn-server

**Description** Show current connections to the VPN server.

**Prefix no** No**Change settings** No**Multiple input** No**Synopsis** `(show)> vpn-server`**Example** `(show)> vpn-server`

```

tunnel:
clientaddress: 172.16.1.33
  username: test
  uptime: 3

statistic:
  rxpackets: 51
rx-multicast-packets: 0
rx-broadcast-packets: 0
  rxbytes: 5440
  rxerrors: 0
  rxdropped: 0
  txpackets: 46
tx-multicast-packets: 0
tx-broadcast-packets: 0
  txbytes: 9229
  txerrors: 0
  txdropped: 0
  timestamp: 146237.254244
last-overflow: 0.000000

```

**History**

| Version | Description                                             |
|---------|---------------------------------------------------------|
| 2.04    | The <b>show vpn-server</b> command has been introduced. |

## 3.147 snmp community

**Description** Set new name for *SNMP* community. By default, common name public is used.

Command with **no** prefix resets setting to default.

**Prefix no** Yes**Change settings** Yes**Multiple input** No**Synopsis** `(config)> snmp community <community>``(config)> no snmp community`



**Arguments**

| Argument  | Value         | Description         |
|-----------|---------------|---------------------|
| community | <i>String</i> | New community name. |

**Example**

```
(config)> snmp community Co_test
Snmp::Manager: SNMP community set to "Co_test".
(config)> no snmp community
Snmp::Manager: SNMP community reset to "public".
```

**History**

| Version | Description                                            |
|---------|--------------------------------------------------------|
| 2.08    | The <b>snmp community</b> command has been introduced. |

## 3.148 snmp contact

**Description**

Assign the contact name of *SNMP* agent. By default, the name is not defined.

Command with **no** prefix resets setting.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

No

**Synopsis**

```
(config)> snmp contact <contact>
```

```
(config)> no snmp contact
```

**Arguments**

| Argument | Value         | Description               |
|----------|---------------|---------------------------|
| contact  | <i>String</i> | <i>SNMP</i> contact info. |

**Example**

```
(config)> snmp contact Cont_test
Snmp::Manager: SNMP contact info set to "Cont_test".
(config)> no snmp contact
Snmp::Manager: SNMP community info reset.
```

**History**

| Version | Description                                          |
|---------|------------------------------------------------------|
| 2.08    | The <b>snmp contact</b> command has been introduced. |

## 3.149 snmp location

**Description**

Assign the location of *SNMP* agent. By default, the location is not defined.

Command with **no** prefix resets setting.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Synopsis**

```
(config)> snmp location <location>
(config)> no snmp location
```

**Arguments**

| Argument | Value         | Description                           |
|----------|---------------|---------------------------------------|
| location | <i>String</i> | <a href="#">SNMP</a> device location. |

**Example**

```
(config)> snmp location Odintsovo
Snmp::Manager: SNMP device location set to "Odintsovo".
(config)> no snmp location
Snmp::Manager: SNMP device location reset.
```

**History**

| Version | Description                                           |
|---------|-------------------------------------------------------|
| 2.08    | The <b>snmp location</b> command has been introduced. |

## 3.150 snmp view

**Description** Create [SNMP](#) community with restricted access.

Command with **no** prefix removes community.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** Yes

**Synopsis**

```
(config)> snmp view <name>
(config)> no snmp view <name>
```

**Arguments**

| Argument | Value         | Description                                                                                          |
|----------|---------------|------------------------------------------------------------------------------------------------------|
| name     | <i>String</i> | Community name in reduced form, not more than 32 characters. The maximum number of communities is 4. |

**Example**

```
(config)> snmp view client
Snmp::Manager: Created view "client".

(config)> no snmp view client
Snmp::Manager: Removed view "client".
```

| History | Version | Description                                       |
|---------|---------|---------------------------------------------------|
|         | 4.01    | The <b>snmp view</b> command has been introduced. |

## 3.151 snmp view exclude

**Description** Add subtree exclusion from *SNMP* view.  
Command with **no** prefix removes the setting.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Synopsis**

```
(config)> snmp view exclude <oid>
(config)> no snmp view exclude [ <oid> ]
```

| Arguments | Argument | Value         | Description        |
|-----------|----------|---------------|--------------------|
|           | oid      | <i>String</i> | Object identifier. |

**Example**

```
(config)> snmp view client exclude mgmt
Snmp::Manager: "client": added excluded OID "mgmt".
```

```
(config)> no snmp view client exclude mgmt
Snmp::Manager: "client": removed excluded OID "mgmt".
```

| History | Version | Description                                               |
|---------|---------|-----------------------------------------------------------|
|         | 4.01    | The <b>snmp view exclude</b> command has been introduced. |

## 3.152 snmp view include

**Description** Add include subtree for *SNMP* view.  
Command with **no** prefix removes the setting.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Synopsis**

```
(config)> snmp view include <oid>
(config)> no snmp view include [ <oid> ]
```

**Arguments**

| Argument | Value         | Description        |
|----------|---------------|--------------------|
| oid      | <i>String</i> | Object identifier. |

**Example**

```
(config)> snmp view client include internet
Snmp::Manager: "client": added included OID "internet".
```

```
(config)> no snmp view client include internet
Snmp::Manager: "client": removed included OID "internet".
```

**History**

| Version | Description                                               |
|---------|-----------------------------------------------------------|
| 4.01    | The <b>snmp view include</b> command has been introduced. |

## 3.153 sstp-server

**Description** Access to a group of commands to configure *SSTP* server parameters.

**Prefix no** No

**Change settings** No

**Multiple input** No

**Group entry** (sstp-server)

**Synopsis** (config)> **sstp-server**

**History**

| Version | Description                                         |
|---------|-----------------------------------------------------|
| 2.12    | The <b>sstp-server</b> command has been introduced. |

### 3.153.1 sstp-server allow-bridging

**Description** Enable Ethernet bridging mode for *SSTP* server. By default, this mode is disabled.

**Note:** The bridging mode is supported between Keenetic routers.

Command with **no** prefix disables the setting.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Synopsis** (sstp-server)> **allow-bridging**

```
(sstp-server)> no allow-bridging
```

**Example**

```
(sstp-server)> allow-bridging
SstpServer::Manager: Enabled Ethernet mode.
```

```
(sstp-server)> no allow-bridging
SstpServer::Manager: Disabled Ethernet mode.
```

**History**

| Version | Description                                                        |
|---------|--------------------------------------------------------------------|
| 3.09    | The <b>sstp-server allow-bridging</b> command has been introduced. |

## 3.153.2 sstp-server camouflage

**Description**

Enable the camouflage mode for the [SSTP](#) server, which provides greater security from remote service scanning. By default, the mode is disabled.

Command with **no** prefix disables the camouflage mode.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

No

**Synopsis**

```
(sstp-server)> camouflage
```

```
(sstp-server)> no camouflage
```

**Example**

```
(sstp-server)> camouflage
SstpServer::Manager: Enabled camouflage mode.
```

```
(sstp-server)> no camouflage
SstpServer::Manager: Disabled camouflage mode.
```

**History**

| Version | Description                                                    |
|---------|----------------------------------------------------------------|
| 4.02    | The <b>sstp-server camouflage</b> command has been introduced. |

## 3.153.3 sstp-server debug

**Description**

Enable debug mode for [SSTP](#) server. Detailed information about the progress of the [SSTP](#) client connection to the [SSTP](#) server is saved to the system log. By default, setting is disabled.

Command with **no** prefix disables the debug mode.

**Prefix no**

Yes

**Change settings** Yes

**Multiple input** No

**Synopsis**

```
(sstp-server)> debug
```

```
(sstp-server)> no debug
```

**Example**

```
(sstp-server)> debug  
SstpServer::Manager: Enabled debug.
```

```
(sstp-server)> no debug  
SstpServer::Manager: Disabled debug.
```

| History | Version | Description                                               |
|---------|---------|-----------------------------------------------------------|
|         | 4.03    | The <b>sstp-server debug</b> command has been introduced. |

## 3.153.4 sstp-server dhcp route

**Description** Assign a route which is transmitted in DHCP INFORM messages to the [SSTP](#) server clients.

Command with **no** prefix cancels the specified route. If you use no arguments, the entire list of routes will be cleared.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** Yes

**Synopsis**

```
(sstp-server)> dhcp route <address> <mask>
```

```
(sstp-server)> no dhcp route [ <address> <mask> ]
```

| Arguments | Argument | Value             | Description                                                                                                                                                      |
|-----------|----------|-------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|           | address  | <i>IP address</i> | Network client address.                                                                                                                                          |
|           | mask     | <i>IP-mask</i>    | Network client mask. There are two ways to enter the mask: the canonical form (for example, 255.255.255.0) and the form of prefix bit length (for example, /24). |

**Example**

```
(sstp-server)> dhcp route 192.168.2.0/24  
SstpServer::Manager: Added DHCP INFORM route to ►  
192.168.2.0/255.255.255.0.
```

```
(sstp-server)> no dhcp route  
SstpServer::Manager: Cleared DHCP INFORM routes.
```

| History | Version | Description                                                    |
|---------|---------|----------------------------------------------------------------|
|         | 2.12    | The <b>sstp-server dhcp route</b> command has been introduced. |

## 3.153.5 sstp-server interface

**Description** Bind *SSTP* server to the specified interface.  
Command with **no** prefix unbinds the interface.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Synopsis**

```
(sstp-server)> interface <interface>
(sstp-server)> no interface
```

| Arguments | Argument  | Value            | Description                                                                                                                |
|-----------|-----------|------------------|----------------------------------------------------------------------------------------------------------------------------|
|           | interface | <i>Interface</i> | Full interface name or an alias. You can see the list of available interfaces with help of <b>interface [Tab]</b> command. |

**Example** (sstp-server)> **interface [Tab]**

```
Usage template:
  interface {interface}
```

```
Choose:
  GigabitEthernet1
  ISP
  WifiMaster0/AccessPoint2
  WifiMaster1/AccessPoint1
  WifiMaster0/AccessPoint3
  WifiMaster0/AccessPoint0
  AccessPoint
  WifiMaster1/AccessPoint2
  WifiMaster0/AccessPoint1
  GuestWiFi
```

```
(sstp-server)> interface Bridge0
SstpServer::Manager: Bound to Bridge0.
```

| History | Version | Description                                                   |
|---------|---------|---------------------------------------------------------------|
|         | 2.12    | The <b>sstp-server interface</b> command has been introduced. |

### 3.153.6 sstp-server ipv6cp

**Description** Enable IPv6 support. DHCP IPv6 pools are created for each *SSTP* server. By default, the setting is disabled.

Command with **no** prefix disables IPv6 support.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Synopsis**

```
(sstp-server)>  ipv6cp
(sstp-server)> no ipv6cp
```

**Example**

```
(sstp-server)> ipv6cp
SstpServer::Manager: IPv6 control protocol enabled.
```

```
(sstp-server)> no ipv6cp
SstpServer::Manager: IPv6 control protocol disabled.
```

#### History

| Version | Description                                                |
|---------|------------------------------------------------------------|
| 3.00    | The <b>sstp-server ipv6cp</b> command has been introduced. |

### 3.153.7 sstp-server lcp echo

**Description** Specify the testing rules of the SSTP-connections with *LCP* echo tools.

Command with **no** prefix disables *LCP* echo.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Synopsis**

```
(sstp-server)>  lcp echo <interval> <count> [adaptive]
(sstp-server)> no lcp echo
```

#### Arguments

| Argument | Value          | Description                                                                                                                                                                                                                         |
|----------|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| interval | <i>Integer</i> | Interval between sending <i>LCP</i> echo, in seconds. If within the specified time interval there is no <i>LCP</i> echo request from the remote location, the same request will be sent there asking for response <i>LCP</i> reply. |



| Argument | Value          | Description                                                                                                                                                                                       |
|----------|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| count    | <i>Integer</i> | The number of consecutive requests <i>LCP</i> echo sent, for which no response <i>LCP</i> reply was received. If count of <i>LCP</i> echo requests goes unanswered, the connection is terminated. |
| adaptive | <i>Keyword</i> | Pppd will send LCP echo-request frames only if no traffic was received from the peer since the last echo-request was sent.                                                                        |

**Example**

```
(sstp-server)> lcp echo 5 3
SstpServer::Manager: LCP echo parameters updated.
```

**History**

| Version | Description                                                  |
|---------|--------------------------------------------------------------|
| 2.12    | The <b>sstp-server lcp echo</b> command has been introduced. |

## 3.153.8 sstp-server lcp force-pap

**Description**

Enforce the *PAP* authentication only for *SSTP* server.

Command with **no** prefix disables *PAP* authentication.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

No

**Synopsis**

```
(sstp-server)> lcp force-pap
```

```
(sstp-server)> no lcp force-pap
```

**Example**

```
(sstp-server)> lcp force-pap
SstpServer::Manager: Forced PAP-only authentication.
```

```
(sstp-server)> no lcp force-pap
SstpServer::Manager: Disabled forcing PAP-only authentication.
```

**History**

| Version | Description                                                       |
|---------|-------------------------------------------------------------------|
| 3.05    | The <b>sstp-server lcp force-pap</b> command has been introduced. |

## 3.153.9 sstp-server mru

**Description**

Set *MRU* value to be transmitted to *SSTP* server. By default, 1350 value is used.

Command with **no** prefix resets value to default.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Synopsis**

```
(sstp-server)> mru value
(sstp-server)> no mru
```

**Arguments**

| Argument | Value          | Description                                                                  |
|----------|----------------|------------------------------------------------------------------------------|
| value    | <i>Integer</i> | <i>MRU</i> value. Can take values in the range from 128 to 1500 inclusively. |

**Example**

```
(sstp-server)> mru 200
SstpServer::Manager: MRU set to 200.
```

**History**

| Version | Description                                             |
|---------|---------------------------------------------------------|
| 2.12    | The <b>sstp-server mru</b> command has been introduced. |

## 3.153.10 sstp-server mtu

**Description** Set *MTU* value to be transmitted to *SSTP* server. By default, 1350 value is used.

Command with **no** prefix resets value to default.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Synopsis**

```
(sstp-server)> mtu value
(sstp-server)> no mtu
```

**Arguments**

| Argument | Value          | Description                                                                  |
|----------|----------------|------------------------------------------------------------------------------|
| value    | <i>Integer</i> | <i>MTU</i> value. Can take values in the range from 128 to 1500 inclusively. |

**Example**

```
(sstp-server)> mtu 200
SstpServer::Manager: MTU set to 200.
```

| History | Version | Description                                             |
|---------|---------|---------------------------------------------------------|
|         | 2.12    | The <b>sstp-server mtu</b> command has been introduced. |

### 3.153.11 sstp-server multi-login

**Description** Allow connection to [SSTP](#) server for multiple users from one account.  
Command with **no** prefix disables this feature.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Synopsis**

```
(sstp-server)> multi-login
(sstp-server)> no multi-login
```

**Example**

```
(sstp-server)> multi-login
SstpServer::Manager: Enabled multiple login.
```

| History | Version | Description                                                     |
|---------|---------|-----------------------------------------------------------------|
|         | 2.12    | The <b>sstp-server multi-login</b> command has been introduced. |

### 3.153.12 sstp-server pool-range

**Description** Assign a pool of addresses for the clients that connect to the [SSTP](#) server. By default, pool size 10 is used.

Command with **no** prefix removes a pool.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Synopsis**

```
(sstp-server)> pool-range <begin> [ <size> ]
(sstp-server)> no pool-range
```

| Arguments | Argument | Value             | Description            |
|-----------|----------|-------------------|------------------------|
|           | begin    | <i>IP address</i> | Start address of pool. |
|           | size     | <i>Integer</i>    | Pool size.             |

**Example** (sstp-server)> **pool-range 192.168.1.22 7**  
 SstpServer::Manager: Configured pool range 192.168.1.22 to ► 192.168.1.28.

| History | Version | Description                                                    |
|---------|---------|----------------------------------------------------------------|
|         | 2.12    | The <b>sstp-server pool-range</b> command has been introduced. |

### 3.153.13 sstp-server session-logout

**Description** Terminate an active or stalled session on the [SSTP](#) server.

**Prefix no** No

**Change settings** Yes

**Multiple input** No

**Synopsis** (sstp-server)> **session-logout** <session>

| Arguments | Argument | Value          | Description                                                                                        |
|-----------|----------|----------------|----------------------------------------------------------------------------------------------------|
|           | session  | <i>Integer</i> | Identifier of the SSTP session (can be viewed using the <a href="#">show sstp-server</a> command). |

**Example** (sstp-server)> **session-logout 6**  
 SstpServer::Manager: Session "6" is terminated.

| History | Version | Description                                                        |
|---------|---------|--------------------------------------------------------------------|
|         | 4.03    | The <b>sstp-server session-logout</b> command has been introduced. |

### 3.153.14 sstp-server session-preempt

**Description** Enable to preempt VPN sessions when [sstp-server multi-login](#) option is disabled for the [SSTP](#) server.

Command with **no** prefix disables the preempt.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Synopsis** (sstp-server)> **session-preempt**

```
(sstp-server)> no session-preempt
```

**Example**

```
(sstp-server)> session-preempt
SstpServer::Manager: Enabled session preemption.
```

```
(sstp-server)> no session-preempt
SstpServer::Manager: Disabled session preemption.
```

**History**

| Version | Description                                                         |
|---------|---------------------------------------------------------------------|
| 4.03    | The <b>sstp-server session-preempt</b> command has been introduced. |

## 3.153.15 sstp-server static-ip

**Description**

Bind IP address to the user. User account must have sstp tag.

Command with **no** prefix removes binding.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

Yes

**Synopsis**

```
(sstp-server)> static-ip <name> <address>
```

```
(sstp-server)> no static-ip <name>
```

**Arguments**

| Argument | Value             | Description         |
|----------|-------------------|---------------------|
| name     | <i>String</i>     | Username.           |
| address  | <i>IP address</i> | IP address to bind. |

**Example**

```
(sstp-server)> static-ip admin 192.168.1.22
SstpServer::Manager: Static IP 192.168.1.22 assigned to user ►
"admin".
```

**History**

| Version | Description                                                   |
|---------|---------------------------------------------------------------|
| 2.12    | The <b>sstp-server static-ip</b> command has been introduced. |

## 3.154 system

**Description**

Access to a group of commands to configure global parameters.

**Prefix no**

No

**Change settings** No**Multiple input** No**Group entry** (system)**Synopsis**  
| (config)> **system****History**

| Version | Description                                    |
|---------|------------------------------------------------|
| 2.00    | The <b>system</b> command has been introduced. |

## 3.154.1 system button

**Description** Configure device buttons to handle specific actions. Available handlers depend on hardware configuration and installed modules.Command with **no** prefix remove setting.**Prefix no** Yes**Change settings** Yes**Multiple input** No**Synopsis**  
| (system)> **button** <button> **on** <action> **do** <handler>  
| (system)> **no button** [ <button> [ **on** <action> ] ]**Arguments**

| Argument | Value             | Description                                                   |
|----------|-------------------|---------------------------------------------------------------|
| button   | RESET             | RESET button.                                                 |
|          | WLAN              | Wireless LAN button.                                          |
| action   | click             | Single click.                                                 |
|          | double-click      | Double click.                                                 |
|          | hold              | Push and hold for 3 seconds. RESET button hold is 10 seconds. |
| handler  | FactoryReset      | Reset system to factory defaults.                             |
|          | Reboot            | System reboot.                                                |
|          | WifiToggle        | Switch Wi-Fi on/off.                                          |
|          | WifiGuestApToggle | Switch Guest Wi-Fi on/off.                                    |
|          | WpsStartMainAp    | Start WPS (2.4GHz only).                                      |
|          | WpsStartMainAp5   | Start WPS (5GHz only).                                        |

| Argument | Value             | Description                      |
|----------|-------------------|----------------------------------|
|          | WpsStartAllMainAp | Start WPS (all frequency bands). |

**Example**

```
(system)> button WLAN on double-click do WifiGuestApToggle
Core::Peripheral::Manager: "WLAN/double-click" handler set.
```

```
(system)> no button
Core::Peripheral::Manager: All button bindings reset.
```

```
(system)> no button FN1
Core::Peripheral::Manager: "FN1" button bindings reset.
```

**History**

| Version | Description                                           |
|---------|-------------------------------------------------------|
| 2.03    | The <b>system button</b> command has been introduced. |

## 3.154.2 system caption

**Description** Set the Web interface title and header for ease of navigation.

**Prefix no** No

**Change settings** Yes

**Multiple input** No

**Synopsis** `(system)> caption <template>`

**Arguments**

| Argument | Value        | Description                                                           |
|----------|--------------|-----------------------------------------------------------------------|
| template | default      | Combination of Brand and Model (for example, Keenetic Speedster).     |
|          | product      | The Model name (for example, Speedster).                              |
|          | description  | The System description (for example, Speedster (Sprinter (KN-3710))). |
|          | hwid         | The Model identifier (for example, Sprinter (KN-3710)).               |
|          | hostname     | The System name (for example, Keenetic-Speedster).                    |
|          | ndns-domain  | The keenetic name (for example, mywork.keenetic.name).                |
|          | default-ssid | The Default Wi-Fi name (for example, Keenetic-8665).                  |

**Example**

```
(system)> caption product
Core::System::Caption: Template set to product.
```

**History**

| Version | Description                                            |
|---------|--------------------------------------------------------|
| 3.08    | The <b>system caption</b> command has been introduced. |

## 3.154.3 system clock date

**Description** Adjust system date and time.

**Prefix no** No

**Change settings** Yes

**Multiple input** No

**Synopsis** `(system)> clock date <date-and-time>`

**Arguments**

| Argument      | Value         | Description                                          |
|---------------|---------------|------------------------------------------------------|
| date-and-time | <i>String</i> | Current date and time in DD MM YYYY HH:MM:SS format. |

**Example**

```
(system)> clock date 18 07 2012 09:52:33
System date and time has been changed.
```

**History**

| Version | Description                                               |
|---------|-----------------------------------------------------------|
| 2.00    | The <b>system clock date</b> command has been introduced. |

## 3.154.4 system clock timezone

**Description** Set the system timezone.

Command with **no** prefix resets timezone to default (GMT).

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Synopsis** `(system)> clock timezone <locality>`

`(system)> no clock timezone <locality>`

**Arguments**

| Argument | Value         | Description                                 |
|----------|---------------|---------------------------------------------|
| locality | <i>String</i> | Name of the city, indicating the time zone. |



**Example** (system)> **clock timezone Dublin**  
the system timezone is set to "Dublin".

**History**

| Version | Description                                                   |
|---------|---------------------------------------------------------------|
| 2.00    | The <b>system clock timezone</b> command has been introduced. |

## 3.154.5 system configuration factory-reset

**Description** Reset configuration to the factory settings for all modes.

**Prefix no** No

**Change settings** Yes

**Multiple input** No

**Synopsis** (system)> **configuration factory-reset**

**Example** (system)> **configuration factory-reset**  
Core::Configuration: the system configuration reset to factory defaults.

**History**

| Version | Description                                                                |
|---------|----------------------------------------------------------------------------|
| 2.00    | The <b>system configuration factory-reset</b> command has been introduced. |

## 3.154.6 system configuration fail-safe commit

**Description** Commit all unsaved changes and stop the timer.

**Prefix no** No

**Change settings** No

**Multiple input** No

**Synopsis** (system)> **configuration fail-safe commit**

**Example** (system)> **configuration fail-safe commit**  
Core::System::Mtd::ConfigStorage: Committed fail-safe configuration changes.

**History**

| Version | Description                                                                   |
|---------|-------------------------------------------------------------------------------|
| 3.08    | The <b>system configuration fail-safe commit</b> command has been introduced. |

### 3.154.7 system configuration fail-safe keep-alive

**Description** Silently restart the fail-safe timer.

If the fail-safe mode is inactive or there are no configuration changes the command does nothing.

**Prefix no** No

**Change settings** No

**Multiple input** No

**Synopsis** `(system)> configuration fail-safe keep-alive`

**Example** `(system)> configuration fail-safe keep-alive`

| History | Version | Description                                                                       |
|---------|---------|-----------------------------------------------------------------------------------|
|         | 3.08    | The <b>system configuration fail-safe keep-alive</b> command has been introduced. |

### 3.154.8 system configuration fail-safe rollback

**Description** Rollback all unsaved changes and reboot the system. The system brings to a special rollback state while rebooting. In this state commit and timer reconfiguration actions are blocked, except timer disable.

If there are no configuration changes the command does nothing.

**Prefix no** No

**Change settings** No

**Multiple input** No

**Synopsis** `(system)> configuration fail-safe rollback`

**Example** `(system)> configuration fail-safe rollback`  
`Core::System::Mtd::ConfigStorage: Ignored a fail-safe rollback: ►`  
`no pending changes.`

| History | Version | Description                                                                     |
|---------|---------|---------------------------------------------------------------------------------|
|         | 3.08    | The <b>system configuration fail-safe rollback</b> command has been introduced. |

### 3.154.9 system configuration fail-safe timer

**Description** Setup or cancel the fail-safe timer. The command configures (or reconfigures) a timer state that is permanent between reboots — it does not require explicit configuration saving. Implemented for the router mode only.

Command with **no** prefix disables the setting.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Synopsis**

```
(system)> configuration fail-safe timer <action> <interval>
(system)> no configuration fail-safe timer
```

**Arguments**

| Argument | Value          | Description                                        |
|----------|----------------|----------------------------------------------------|
| action   | reboot         | Action when the timer expires.                     |
| interval | <i>Integer</i> | Timer value in the range from 60 to 86400 seconds. |

**Example**

```
(system)> configuration fail-safe timer reboot 60
Core::System::Mtd::ConfigStorage: Enabled a 60-second fail-safe ►
"reboot" timer.

(system)> no configuration fail-safe timer
Core::System::Mtd::ConfigStorage: Turned off the fail-safe mode.
```

**History**

| Version | Description                                                                  |
|---------|------------------------------------------------------------------------------|
| 3.08    | The <b>system configuration fail-safe timer</b> command has been introduced. |

### 3.154.10 system configuration save

**Description** Save the system configuration asynchronously.

**Prefix no** No

**Change settings** Yes

**Multiple input** No

**Synopsis**

```
(system)> configuration save
```

**Example**

```
(system)> configuration save
Saving configuration.
```

**History**

| Version  | Description                                                       |
|----------|-------------------------------------------------------------------|
| 2.05.B.1 | The <b>system configuration save</b> command has been introduced. |

## 3.154.11 system country

**Description**

Select a country from the list of countries available in the factory region. The selected country is permanently stored in the persistent storage and does not require configuration save commands.

The country setting affects all system modes.

Command with **no** prefix resets the setting.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

No

**Synopsis**

```
(system)> country <country>
```

**Arguments**

| Argument | Value         | Description                                                                                                             |
|----------|---------------|-------------------------------------------------------------------------------------------------------------------------|
| country  | <i>String</i> | The country code from <a href="https://en.wikipedia.org/wiki/ISO_3166-1_alpha-2">ISO 3166-1 alpha-2</a> <sup>18</sup> . |

**Example**

```
(system)> country EN
Core::System::Country: Set the system country code to "EN".
```

```
(system)> no country
Core::System::Country: Reset the system country code.
```

**History**

| Version | Description                                            |
|---------|--------------------------------------------------------|
| 4.00    | The <b>system country</b> command has been introduced. |

## 3.154.12 system debug

**Description**

Enable system debug. By default, setting is disabled.

Command with **no** prefix disables the feature.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

No

<sup>18</sup> [https://en.wikipedia.org/wiki/ISO\\_3166-1\\_alpha-2](https://en.wikipedia.org/wiki/ISO_3166-1_alpha-2)

**Synopsis**`(system)> debug``(system)> no debug`**Example**

```
(system)> debug
Core::Debug: System debug enabled.
```

**History**

| Version | Description                                          |
|---------|------------------------------------------------------|
| 2.03    | The <b>system debug</b> command has been introduced. |

## 3.154.13 system description

**Description**

Set the system description as an arbitrary string. By default, description Sprinter (KN-3710) is used.

Command with **no** prefix resets description to default.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

No

**Synopsis**`(system)> description <description>``(system)> no description`**Arguments**

| Argument    | Value         | Description                                  |
|-------------|---------------|----------------------------------------------|
| description | <i>String</i> | System description no longer than 256 bytes. |

**Example**

```
(system)> description DEVICE
Core::System::Info: Description saved.
```

```
(system)> no description
Core::System::Info: Description reset to default.
```

**History**

| Version | Description                                                |
|---------|------------------------------------------------------------|
| 2.15    | The <b>system description</b> command has been introduced. |

## 3.154.14 system domainname

**Description**

Assign domain name for the system.

Command with **no** prefix removes domain name.

**Prefix no** Yes**Change settings** Yes**Multiple input** No

**Synopsis**

```
(system)> domainname <domain>
```

```
(system)> no domainname
```

**Arguments**

| Argument | Value         | Description                |
|----------|---------------|----------------------------|
| domain   | <i>String</i> | The domain name to assign. |

**Example**

```
(system)> domainname example
Domainname saved.
```

**History**

| Version | Description                                               |
|---------|-----------------------------------------------------------|
| 2.00    | The <b>system domainname</b> command has been introduced. |

## 3.154.15 system hostname

**Description** Set the host name. Host name used to identify a node in the network. It is required to enable some of the built-in services, such as CIFS.

Command with **no** prefix sets the default value, which depends on the model name.

**Prefix no** Yes**Change settings** Yes**Multiple input** No

**Synopsis**

```
(system)> hostname <hostname>
```

```
(system)> no hostname
```

**Arguments**

| Argument | Value         | Description       |
|----------|---------------|-------------------|
| hostname | <i>String</i> | Name of the host. |

**Example**

```
(system)> hostname KN1010
Core::System::Hostname: The host name set.
```

```
(system)> no hostname
Core::System::Hostname: The host name reset.
```

**History**

| Version | Description                                             |
|---------|---------------------------------------------------------|
| 2.00    | The <b>system hostname</b> command has been introduced. |

## 3.154.16 system led

**Description**

Configure general purpose LEDs. By default, LED FN shows the updates for your device are available.

Command with **no** prefix resets the setting to default.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

Yes

**Synopsis**

```
(system)> led <led> indicate <control>
```

```
(system)> no led [ <led> [ indicate ] ]
```

**Arguments**

| Argument | Value            | Description                                                                               |
|----------|------------------|-------------------------------------------------------------------------------------------|
| led      | FN               | LED name.                                                                                 |
| control  | UpdatesAvailable | LED notifies you the updates for your device are available.                               |
|          | BackupWan        | LED shows that backup connection is active at the moment.                                 |
|          | SelectedWan      | LED shows status of the interface defined with <a href="#">interface led wan</a> command. |
|          | SelectedSchedule | LED shows status of scheduled event assigned with <a href="#">schedule led</a> command.   |
| indicate | <i>Keyword</i>   | Turn off the indicator completely.                                                        |

**Example**

```
(system)> led FN indicate SelectedWan
```

```
Peripheral::Manager: "SelectedWan" control bound to "FN" LED.
```

```
(system)> no led FN indicate
```

```
Peripheral::Manager: "FN" LED control binding removed.
```

**History**

| Version | Description                                        |
|---------|----------------------------------------------------|
| 2.08    | The <b>system led</b> command has been introduced. |

### 3.154.17 system led power schedule

**Description** Assign a schedule for the LEDs on the device. Schedule must be created and customized with [schedule action](#) command before execution.

Command with **no** prefix unbinds the schedule.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Synopsis**

```
(system)> led power schedule <schedule>
(system)> no led power schedule
```

| Arguments | Argument | Value           | Description                                                                                |
|-----------|----------|-----------------|--------------------------------------------------------------------------------------------|
|           | schedule | <i>Schedule</i> | The name of the schedule that was created with <a href="#">schedule</a> group of commands. |

**Example**

```
(system)> led power schedule schedule1
Core::Peripheral::Manager: Set LED power schedule "schedule1".

(system)> no led power schedule
Core::Peripheral::Manager: Clear LED power schedule.
```

| History | Version | Description                                                       |
|---------|---------|-------------------------------------------------------------------|
|         | 3.06    | The <b>system led power schedule</b> command has been introduced. |

### 3.154.18 system led power shutdown

**Description** Shutdown the LEDs on the device.

Command with **no** prefix turns LEDs on.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Synopsis**

```
(system)> led power shutdown <mode>
(system)> no led power shutdown
```



**Arguments**

| Argument | Value | Description                           |
|----------|-------|---------------------------------------|
| mode     | all   | Shutdown all the LEDs.                |
|          | front | Shutdown the LEDs on the front panel. |
|          | back  | Shutdown the LEDs on the back panel.  |

**Example**

```
(system)> led power shutdown all
Core::Peripheral::Manager: Set LED shutdown mode to "all".
```

```
(system)> no led power shutdown
Core::Peripheral::Manager: Set LED shutdown mode to "none".
```

**History**

| Version | Description                                                                                                             |
|---------|-------------------------------------------------------------------------------------------------------------------------|
| 3.06    | The <b>system led power shutdown</b> command has been introduced. Previous command name is <b>system led shutdown</b> . |

## 3.154.19 system log clear

**Description** Clear the system log.

**Prefix no** No

**Change settings** No

**Multiple input** No

**Synopsis**

```
(system)> log clear
```

**Example**

```
(system)> log clear
Syslog: the system log has been cleared.
```

**History**

| Version | Description                                              |
|---------|----------------------------------------------------------|
| 2.00    | The <b>system log clear</b> command has been introduced. |

## 3.154.20 system log reduction

**Description** Enable repeated message reduction. By default, the setting is enabled.

Command with **no** prefix disables the feature.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Synopsis**`(system)> log reduction``(system)> no log reduction`**Example**`(system)> log reduction``(system)> no log reduction`**History**

| Version | Description                                                  |
|---------|--------------------------------------------------------------|
| 2.04    | The <b>system log reduction</b> command has been introduced. |

## 3.154.21 system log server

**Description**

Add remote log server.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

Yes

**Synopsis**`(system)> log server <address> [: <port>]``(system)> no log server [ <address> [: <port>] ]`**Arguments**

| Argument | Value             | Description                |
|----------|-------------------|----------------------------|
| address  | <i>IP address</i> | Remote log server address. |
| port     | <i>Integer</i>    | Remote log server port.    |

**Example**

```
(system)> log server 192.168.1.1:8080
Syslog: server 192.168.1.1:8080 added.
```

**History**

| Version | Description                                               |
|---------|-----------------------------------------------------------|
| 2.00    | The <b>system log server</b> command has been introduced. |

## 3.154.22 system log suppress

**Description**

Add message suppression rule.

Command with **no** prefix removes the rule.**Prefix no**

Yes

**Change settings**

Yes

**Multiple input** Yes

**Synopsis**

```
(system)> log suppress <ident>
(system)> no log suppress [ <ident> ]
```

**Arguments**

| Argument | Value         | Description                                 |
|----------|---------------|---------------------------------------------|
| ident    | <i>String</i> | Process ID which messages need to suppress. |

**Example**

```
(system)> log suppress kernel
Core::Syslog: Added suppression "kernel".
```

```
(system)> no log suppress kernel
Core::Syslog: Deleted suppression "kernel".
```

```
(system)> log suppress transmissiond
Core::Syslog: Added suppression "transmissiond".
```

```
(system)> no log suppress transmissiond
Core::Syslog: Deleted suppression "transmissiond".
```

**History**

| Version | Description                                                 |
|---------|-------------------------------------------------------------|
| 2.04    | The <b>system log suppress</b> command has been introduced. |

## 3.154.23 system mode

**Description** Select system operating mode for Sprinter.

**Prefix no** No

**Change settings** Yes

**Multiple input** No

**Synopsis**

```
(system)> mode <mode>
```

**Arguments**

| Argument | Value    | Description                                                                  |
|----------|----------|------------------------------------------------------------------------------|
| mode     | router   | Main mode.                                                                   |
|          | client   | Network adapter mode to connect Ethernet devices to Wi-Fi network.           |
|          | repeater | Repeater mode to extend Wi-Fi network using a wireless connection.           |
|          | ap       | Access point mode to extend Wi-Fi network using a wired Ethernet connection. |

**Example**

```
(system)> mode repeater
Core::Mode: The system switched to "repeater" mode, reboot the ►
device to apply the settings.
```

**History**

| Version | Description                                         |
|---------|-----------------------------------------------------|
| 2.05    | The <b>system mode</b> command has been introduced. |

## 3.154.24 system ndss dump-report disable

**Description**

Disable product improvement program. By default, setting is enabled.

Command with **no** prefix enables the program.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

No

**Synopsis**

```
(system)> ndss dump-report disable
```

```
(system)> no ndss dump-report disable
```

**Example**

```
(system)> ndss dump-report disable
Core::Ndss: Dump-reporting disabled.
```

```
(system)> no ndss dump-report disable
Core::Ndss: Dump-reporting enabled.
```

**History**

| Version | Description                                                                                                                          |
|---------|--------------------------------------------------------------------------------------------------------------------------------------|
| 3.05    | The <b>system ndss dump-report disable</b> command has been introduced. Previous command name is <b>system dump-report disable</b> . |

## 3.154.25 system reboot

**Description**

Reboot the system. If the parameter is set, reboot is executed after a timeout, in seconds. If the timer is already set, using of the command replaces the old value of the timer to the new one.

Using a scheduled reboot is convenient in the case when the device is under remote control, and the user doesn't understand the effect of the commands he/she is trying. The user can turn on a scheduled reboot for fear of losing control over the device. After reboot the system will return to its original state and become available.

Command with **no** prefix cancels reboot or removes the reboot on schedule.

**Prefix no** Yes**Change settings** No**Multiple input** No

**Synopsis**

```
(system)> reboot [ <interval> | schedule <schedule> ]
```

```
(system)> no reboot [ schedule ]
```

**Arguments**

| Argument | Value           | Description                                                                                |
|----------|-----------------|--------------------------------------------------------------------------------------------|
| interval | <i>Integer</i>  | Timeout for reboot, in seconds. If not specified, the reboot will be executed immediately. |
| schedule | <i>Schedule</i> | The name of the schedule that was created with <b>schedule</b> group of commands.          |

**Example**

```
(system)> reboot 20
Core::System::RebootManager: Rebooting in 20 seconds.
```

```
(system)> no reboot
Core::System::RebootManager: Reboot cancelled.
```

```
(system)> reboot schedule rebootroute
Core::System::RebootManager: Set reboot schedule "rebootroute".
```

```
(system)> no reboot schedule
Core::System::RebootManager: Schedule disabled.
```

**History**

| Version | Description                                           |
|---------|-------------------------------------------------------|
| 2.00    | The <b>system reboot</b> command has been introduced. |
| 2.12    | The <b>schedule</b> argument has been added.          |

## 3.154.26 system set

**Description** Set the value of the specified system parameter and save it in the current settings.

Command with **no** prefix returns the default value to the specified parameter (before the first change).

**Prefix no** Yes**Change settings** Yes**Multiple input** Yes

**Synopsis**

```
(system)> set <name> <value>
```

```
(system)> no set <name>
```

**Arguments**

| Argument | Value         | Description                         |
|----------|---------------|-------------------------------------|
| name     | <i>String</i> | Identifier of the system parameter. |
| value    | <i>String</i> | New value of the system parameter.  |

**Example**

```
(config)> system
(system)> set net.ipv4.ip_forward 1
(system)> set net.ipv4.tcp_fin_timeout 30
(system)> set net.ipv4.tcp_keepalive_time 120
(system)> set ►
net.ipv4.netfilter.ip_conntrack_tcp_timeout_established 1200
(system)> set net.ipv4.netfilter.ip_conntrack_udp_timeout 60
(system)> set net.ipv4.netfilter.ip_conntrack_max 4096
(system)> exit
(config)> show running-config
system
set net.ipv4.ip_forward 1
    set net.ipv4.tcp_fin_timeout 30
    set net.ipv4.tcp_keepalive_time 120
    set net.ipv4.netfilter.ip_conntrack_tcp_timeout_established ►
1200
    set net.ipv4.netfilter.ip_conntrack_udp_timeout 60
    set net.ipv4.netfilter.ip_conntrack_max 4096
!
...
(config)>
```

**History**

| Version | Description                                        |
|---------|----------------------------------------------------|
| 2.00    | The <b>system set</b> command has been introduced. |

## 3.154.27 system trace lock threshold

**Description**

Set a trace lock threshold for the system threads. If the threshold value is exceeded, information about this thread (for example, SCGI session) is saved in the system log. By default, setting is disabled.

Command with **no** prefix disables the trace lock threshold feature.

**Prefix no**

Yes

**Change settings**

No

**Multiple input**

No

**Synopsis**

```
(system)> system trace lock threshold <threshold>
```

```
(system)> no system trace lock threshold
```

**Arguments**

| Argument  | Value         | Description                                                                                                                                            |
|-----------|---------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|
| threshold | <i>String</i> | Threshold value in milliseconds. Can take values in the range from 100 to 100000000 inclusively. The threshold value is not saved into startup-config. |

**Example**

```
(system)> system trace lock threshold 100
Lockable: Set threshold to 100 ms.
```

```
(system)> no trace lock threshold
Lockable: Reset threshold.
```

**History**

| Version | Description                                                         |
|---------|---------------------------------------------------------------------|
| 3.03    | The <b>system trace lock threshold</b> command has been introduced. |

## 3.155 tools

**Description**

Access to a group of commands to test the environment.

**Prefix no**

No

**Change settings**

No

**Multiple input**

No

**Group entry**

(tools)

**Synopsis**

```
(config)> tools
```

**History**

| Version | Description                                   |
|---------|-----------------------------------------------|
| 2.00    | The <b>tools</b> command has been introduced. |

### 3.155.1 tools arping

**Description**

Command action is analogous to **tools ping** command, but operates at the link layer of the OSI model using the **ARP** protocol.

**Prefix no**

No

**Change settings**

No

**Multiple input**

No

**Synopsis**

```
(tools)> arping <address> source-interface <source-interface> [ count
<count> ] [ wait-time <wait-time> ]
```

**Arguments**

| Argument         | Value             | Description                                                                                 |
|------------------|-------------------|---------------------------------------------------------------------------------------------|
| address          | <i>IP address</i> | IP address of the respondent.                                                               |
| source-interface | <i>Interface</i>  | Name of source-interface.                                                                   |
| count            | <i>Integer</i>    | Quantity of requests. If not specified, the command will run until interrupted by the user. |
| wait-time        | <i>Integer</i>    | The maximum response time, in milliseconds.                                                 |

**Example**

```
(tools)> arping 192.168.15.51 source-interface Home count 4 ►
wait-time 3000
Starting the ARP ping to "192.168.15.51"...
ARPING 192.168.15.51 from 192.168.15.1 br0.
Unicast reply from 192.168.15.51 [9c:b7:0d:ce:51:6a] 1.884 ms.
Unicast reply from 192.168.15.51 [9c:b7:0d:ce:51:6a] 1.831 ms.
Sent 4 probes, received 2 responses.
Process terminated.
```

**History**

| Version | Description                                          |
|---------|------------------------------------------------------|
| 2.00    | The <b>tools arping</b> command has been introduced. |

## 3.155.2 tools ping

**Description**

Send Echo-Request requests of ICMP protocol to specified network node and register received Echo Reply responses. The time between sending request and receiving the response Round Trip Time (RTT) allows you to define double ended delays on the route and frequency of packet losses, that is, indirectly determine loading on the channels of data transmission and intermediate devices.

Total absence of ICMP Replies can also mean that the remote node (or any of the intermediate routers) blocks ICMP Echo Reply or ignores ICMP Echo Request.

**Prefix no**

No

**Change settings**

No

**Multiple input**

No

**Synopsis**

```
(tools)> ping <host> [ count <count> ] [ packetsize <packetsize> ] [
sequence-id <sequence-id> ] [ source ( <source-interface> |
<source-address> ) ] [ tos <tos> ] [ ttl <ttl> ]
```

**Arguments**

| Argument | Value         | Description                     |
|----------|---------------|---------------------------------|
| host     | <i>String</i> | Domain name or host IP address. |



| Argument    | Value            | Description                                                                                                                                                  |
|-------------|------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| count       | <i>Integer</i>   | Quantity of ICMP Echo Requests. If not specified, the command will run until interrupted by the user.                                                        |
| packetsize  | <i>Integer</i>   | Size of the ICMP Echo Request data field in bytes. By default, 56 value is used. Can take values in the range from 28 to 65535 inclusively.                  |
| sequence-id | <i>Integer</i>   | Sequence number to aid in matching Echo Request and Echo Reply. By default, 0 value is used. Can take values in the range from 0 to 65535 inclusively.       |
| source      | source-address   | Address of the outgoing interface.                                                                                                                           |
|             | source-interface | Interface to be used as the source interface in outgoing probe packets.                                                                                      |
| tos         | <i>Integer</i>   | Type Of Service. By default, 0 value is used. Can take values in the range from 0 to 63 inclusively.                                                         |
| ttl         | <i>Integer</i>   | Maximum number of hops (max time-to-live value) traceroute will probe. By default, 30 value is used. Can take values in the range from 1 to 255 inclusively. |

**Example**

```
(tools)> ping 8.8.8.8 count 5 size 100
Sending ICMP ECHO request to 192.168.1.33
PING 192.168.1.33 (192.168.1.33) 72 (100) bytes of data.
100 bytes from 192.168.1.33: icmp_req=1, ttl=128, time=2.35 ms.
100 bytes from 192.168.1.33: icmp_req=2, ttl=128, time=1.07 ms.
100 bytes from 192.168.1.33: icmp_req=3, ttl=128, time=1.06 ms.
--- 192.168.1.33 ping statistics ---
3 packets transmitted, 3 packets received, 0% packet loss,
0 duplicate(s), time 2002.65 ms.
Round-trip min/avg/max = 1.06/1.49/2.35 ms.
Process terminated.
```

```
(tools)> ping 8.8.8.8 source Wireguard1
sending ICMP ECHO request to 8.8.8.8...
PING 8.8.8.8 (8.8.8.8) 72 (100) bytes of data.
96 bytes from 8.8.8.8: icmp_req=1, ttl=108, time=17.58 ms. ►
(truncated).
96 bytes from 8.8.8.8: icmp_req=2, ttl=108, time=17.62 ms. ►
(truncated).
96 bytes from 8.8.8.8: icmp_req=3, ttl=108, time=17.29 ms. ►
(truncated).
96 bytes from 8.8.8.8: icmp_req=4, ttl=108, time=17.17 ms. ►
(truncated).
96 bytes from 8.8.8.8: icmp_req=5, ttl=108, time=17.41 ms. ►
(truncated).
```

```
--- 8.8.8.8 ping statistics ---
5 packets transmitted, 5 packets received, 0% packet loss,
0 duplicate(s), time 4019.72 ms.
Round-trip min/avg/max = 17.17/17.41/17.62 ms.
```

**History**

| Version | Description                                                         |
|---------|---------------------------------------------------------------------|
| 2.00    | The <b>tools ping</b> command has been introduced.                  |
| 4.01    | New values address and interface were added to the source argument. |

## 3.155.3 tools ping6

**Description**

Send Echo-Request requests of ICMPv6 protocol to specified network node and register received Echo Reply responses. The time between sending request and receiving the response Round Trip Time (RTT) allows you to define double ended delays on the route and frequency of packet losses, that is, indirectly determine loading on the channels of data transmission and intermediate devices.

Total absence of ICMP Replies can also mean that the remote node (or any of the intermediate routers) blocks ICMP Echo Reply or ignores ICMP Echo Request.

**Prefix no**

No

**Change settings**

No

**Multiple input**

No

**Synopsis**

```
(tools)> ping6 <host> [ count <count> ] [ packetsize <packetsize> ] [
sequence-id <sequence-id> ] [ source ( <source-interface> |
<source-address> ) ] [ tos <tos> ] [ tll <tll> ]
```

**Arguments**

| Argument    | Value          | Description                                                                                                                                            |
|-------------|----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|
| host        | <i>String</i>  | Domain name or host IPv6-address.                                                                                                                      |
| count       | <i>Integer</i> | Quantity of ICMPv6 Echo Requests. If not specified, the command will run until interrupted by the user.                                                |
| packetsize  | <i>Integer</i> | Size of the ICMPv6 Echo Request data field in bytes. By default, 56 value is used. Can take values in the range from 28 to 65535 inclusively.          |
| sequence-id | <i>Integer</i> | Sequence number to aid in matching Echo Request and Echo Reply. By default, 0 value is used. Can take values in the range from 0 to 65535 inclusively. |
| source      | source-address | Address of the outgoing interface.                                                                                                                     |

| Argument | Value            | Description                                                                                                                                                  |
|----------|------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
|          | source-interface | Interface to be used as the source interface in outgoing probe packets.                                                                                      |
| tos      | <i>Integer</i>   | Type Of Service. By default, 0 value is used. Can take values in the range from 0 to 63 inclusively.                                                         |
| ttl      | <i>Integer</i>   | Maximum number of hops (max time-to-live value) traceroute will probe. By default, 30 value is used. Can take values in the range from 1 to 255 inclusively. |

**Example**

```
(tools)> ping6 2001:4860:4860::8888 count 5 size 111
sending ICMPv6 ECHO request to 2001:4860:4860::8888...
PING 2001:4860:4860::8888 (2001:4860:4860::8888) 63 (111) bytes ►
of data.
71 bytes from 2001:4860:4860::8888: icmp_req=1, ttl=108, ►
time=19.84 ms.
71 bytes from 2001:4860:4860::8888: icmp_req=2, ttl=108, ►
time=19.73 ms.
71 bytes from 2001:4860:4860::8888: icmp_req=3, ttl=108, ►
time=19.96 ms.
71 bytes from 2001:4860:4860::8888: icmp_req=4, ttl=108, ►
time=19.86 ms.
71 bytes from 2001:4860:4860::8888: icmp_req=5, ttl=108, ►
time=19.76 ms.
--- 2001:4860:4860::8888 ping statistics ---
5 packets transmitted, 5 packets received, 0% packet loss,
0 duplicate(s), time 4021.21 ms.
Round-trip min/avg/max = 19.73/19.83/19.96 ms.
```

```
(tools)> ping6 2001:4860:4860::8888 source ISP
sending ICMPv6 ECHO request to 2001:4860:4860::8888...
PING 2001:4860:4860::8888 (2001:4860:4860::8888) from eth3: 56 ►
(104) bytes of data.
64 bytes from 2001:4860:4860::8888: icmp_req=1, ttl=108, ►
time=19.90 ms.
64 bytes from 2001:4860:4860::8888: icmp_req=2, ttl=108, ►
time=19.75 ms.
64 bytes from 2001:4860:4860::8888: icmp_req=3, ttl=108, ►
time=19.64 ms.
64 bytes from 2001:4860:4860::8888: icmp_req=4, ttl=108, ►
time=19.66 ms.
64 bytes from 2001:4860:4860::8888: icmp_req=5, ttl=108, ►
time=19.88 ms.
64 bytes from 2001:4860:4860::8888: icmp_req=6, ttl=108, ►
time=19.72 ms.
64 bytes from 2001:4860:4860::8888: icmp_req=7, ttl=108, ►
time=19.71 ms.
--- 2001:4860:4860::8888 ping statistics ---
7 packets transmitted, 7 packets received, 0% packet loss,
```

```
0 duplicate(s), time 6221.53 ms.
Round-trip min/avg/max = 19.64/19.75/19.90 ms.
```

**History**

| Version | Description                                                         |
|---------|---------------------------------------------------------------------|
| 2.00    | The <b>tools ping6</b> command has been introduced.                 |
| 4.01    | New values address and interface were added to the source argument. |

**3.155.4 tools traceroute**

**Description** Show the route to a network host.

**Prefix no** No

**Change settings** No

**Multiple input** No

**Synopsis**

```
(tools)> traceroute <host> [ count <count> ] [ interval <interval> ]
      [ wait-time <wait-time> ] [ packetsize <packetsize> ]
      [ max-ttl <max-ttl> ] [ port <port> ] [ source-address
<source-address> ]
      [ source-interface <source-interface> ] [ type <type> ] [ tos <tos>
]
```

**Arguments**

| Argument   | Value          | Description                                                                                                                                                                                              |
|------------|----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| host       | <i>String</i>  | Name of the target host.                                                                                                                                                                                 |
| count      | <i>Integer</i> | Number of probe packets per hop. Default value — 3. Value must be in the range [1;10].                                                                                                                   |
| interval   | <i>Integer</i> | Time in seconds between sending packets. Default value — 0. Value must be in the range [0;15].                                                                                                           |
| wait-time  | <i>Integer</i> | Time to wait for a response to a probe (in seconds). Default value — 1. Value must be in the range [1;15].                                                                                               |
| packetsize | <i>Integer</i> | Size of packet according to the protocol type.<br><br>For tcp type default packet size is 52. Range of values [52].<br><br>For udp and icmp types default packet size is 60. Range of values [28;65535]. |
| max-ttl    | <i>Integer</i> | Maximum number of hops (max time-to-live value) traceroute will probe. Default value — 30. Value must be in the range [1;255].                                                                           |

| Argument         | Value          | Description                                                                                                                                  |
|------------------|----------------|----------------------------------------------------------------------------------------------------------------------------------------------|
| port             | <i>Integer</i> | Destination port.<br><br>For tcp type default port is 80.<br><br>For udp type default port is 33434.<br><br>For icmp type default port is 1. |
| source-address   | <i>String</i>  | Address of the outgoing interface.                                                                                                           |
| source-interface | <i>String</i>  | Interface to be used as the source interface in outgoing probe packets.                                                                      |
| type             | tcp            | <a href="#">TCP</a> protocol.                                                                                                                |
|                  | udp            | <a href="#">UDP</a> protocol. Used by default.                                                                                               |
|                  | icmp           | <a href="#">ICMP</a> protocol.                                                                                                               |
| tos              | <i>Integer</i> | Type Of Service. Default value — 0. Value must be in the range [0;255].                                                                      |

**Example**

```
(tools)> traceroute google.com count 5 interval 5
starting traceroute to google.com...
traceroute to google.com (64.233.161.113), 30 hops maximum, 60 ►
byte packets.
 1 192.168.233.1 (192.168.233.1) 2.742 ms 2.406 ms 2.460 ms ►
 2.191 ms 2.957 ms
 2 10.77.140.1 (10.77.140.1) 3.301 ms 3.847 ms 3.839 ms
process terminated
```

**History**

| Version | Description                                              |
|---------|----------------------------------------------------------|
| 2.00    | The <b>tools traceroute</b> command has been introduced. |

## 3.156 udpxy

**Description** Access to a group of commands to configure [udpxy](#) parameters.

**Prefix no** No

**Change settings** No

**Multiple input** No

**Group entry** (udpxy)

**Synopsis** `(config)> udpxy`

**History**

| Version | Description                                   |
|---------|-----------------------------------------------|
| 2.03    | The <b>udpxy</b> command has been introduced. |

## 3.156.1 udpxy buffer-size

**Description** Set *udpxy* buffer size. By default, 2048 value is used.

Command with **no** prefix resets buffer size to default.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Synopsis**

```
(udpxy)> buffer-size <size>
```

```
(udpxy)> no buffer-size
```

**Arguments**

| Argument | Value          | Description                                                           |
|----------|----------------|-----------------------------------------------------------------------|
| size     | <i>Integer</i> | Buffer size in bytes. Can take values in the range from 1 to 1048576. |

**Example**

```
(udpxy)> buffer-size 500
```

Udpxy::Manager: a buffer size set to 500 bytes.

**History**

| Version | Description                                               |
|---------|-----------------------------------------------------------|
| 2.04    | The <b>udpxy buffer-size</b> command has been introduced. |

## 3.156.2 udpxy buffer-timeout

**Description** Set *udpxy* timeout to hold data in the buffer. By default, 1 value is used.

Command with **no** prefix resets timeout to default.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Synopsis**

```
(udpxy)> buffer-timeout <timeout>
```

```
(udpxy)> no buffer-timeout
```

**Arguments**

| Argument | Value          | Description                                                                                   |
|----------|----------------|-----------------------------------------------------------------------------------------------|
| timeout  | <i>Integer</i> | Timeout value in seconds. Can take values in the range from -1 to 60. -1 — unlimited timeout. |

**Example**

```
(udpxy)> buffer-timeout 10
UdpXY::Manager: a hold data timeout set to 10 sec.
```

**History**

| Version | Description                                                  |
|---------|--------------------------------------------------------------|
| 2.04    | The <b>udpxy buffer-timeout</b> command has been introduced. |

## 3.156.3 udpxy interface

**Description** Bind [udpxy](#) to the specified interface. By default, current default gateway is used.

Command with **no** prefix resets setting to default.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Synopsis**

```
(udpxy)> interface <interface>
(udpxy)> no interface
```

**Arguments**

| Argument  | Value            | Description                                                                                                                |
|-----------|------------------|----------------------------------------------------------------------------------------------------------------------------|
| interface | <i>Interface</i> | Full interface name or an alias. You can see the list of available interfaces with help of <b>interface [Tab]</b> command. |

**Example**

```
(udpxy)> interface [Tab]

Usage template:
    interface {interface}

Choose:
    GigabitEthernet1
    ISP
    WifiMaster0/AccessPoint2
    WifiMaster1/AccessPoint1
    WifiMaster0/AccessPoint3
    WifiMaster0/AccessPoint0
    AccessPoint

(udpxy)> interface ISP
UdpXY::Manager: bound to GigabitEthernet1.
```

**History**

| Version | Description                                             |
|---------|---------------------------------------------------------|
| 2.02    | The <b>udpxy interface</b> command has been introduced. |

## 3.156.4 udpxy port

**Description** Specify port for HTTP requests. By default, 4022 value is used.

Command with **no** prefix resets setting to default.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Synopsis**

```
(udpxy)> port <port>
```

```
(udpxy)> no port
```

**Arguments**

| Argument | Value          | Description                                                |
|----------|----------------|------------------------------------------------------------|
| port     | <i>Integer</i> | Port number. Can take values in the range from 0 to 65535. |

**Example**

```
(udpxy)> port 2323
Udpxy::Manager: a port set to 2323.
```

**History**

| Version | Description                                        |
|---------|----------------------------------------------------|
| 2.03    | The <b>udpxy port</b> command has been introduced. |

## 3.156.5 udpxy renew-interval

**Description** Set renew interval of subscription to the multicast channel. By default, 0 value is used, i.e. the subscription is not renewed.

Command with **no** prefix resets setting to default.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Synopsis**

```
(udpxy)> renew-interval <renew-interval>
```

```
(udpxy)> no renew-interval
```

**Arguments**

| Argument       | Value          | Description                                                                             |
|----------------|----------------|-----------------------------------------------------------------------------------------|
| renew-interval | <i>Integer</i> | Renew interval of subscription in seconds. Can take values in the range from 0 to 3600. |



**Example** (udpxy)> **renew-interval 120**  
 Udpxy::Manager: a renew subscription interval value set to 120 ► sec.

| <b>History</b> | Version | Description                                                  |
|----------------|---------|--------------------------------------------------------------|
|                | 2.03    | The <b>udpxy renew-interval</b> command has been introduced. |

## 3.156.6 udpxy timeout

**Description** Set connection timeout. By default, 5 value is used.  
 Command with **no** prefix resets setting to default.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Synopsis**

```
(udpxy)> timeout <timeout>
(udpxy)> no timeout
```

| <b>Arguments</b> | Argument | Value          | Description                                                    |
|------------------|----------|----------------|----------------------------------------------------------------|
|                  | timeout  | <i>Integer</i> | Timeout in seconds. Can take values in the range from 5 to 60. |

**Example** (udpxy)> **timeout 10**  
 Udpxy::Manager: a stream timeout set to 10 sec.

| <b>History</b> | Version | Description                                           |
|----------------|---------|-------------------------------------------------------|
|                | 2.03    | The <b>udpxy timeout</b> command has been introduced. |

## 3.157 upnp forward

**Description** Add [UPnP](#) forwarding rule.  
 Command with **no** prefix removes rule from the list.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** Yes

**Interface type** IP**Synopsis**

```
(config)> upnp forward <protocol> [ <interface> ] <address> <port>
```

```
(config)> no upnp forward [ <index> | ( <protocol> <address> <port> ) ]
```

**Arguments**

| Argument  | Value             | Description                                             |
|-----------|-------------------|---------------------------------------------------------|
| protocol  | tcp               | Rule for <i>TCP</i> protocol will be added/deleted.     |
|           | udp               | Rule for <i>UDP</i> protocol will be added/deleted.     |
| interface | <i>Interface</i>  | Rule for specified interface name will be added.        |
| address   | <i>IP address</i> | Rule for specified IP address will be added/deleted.    |
| port      | <i>Integer</i>    | Rule for specified port will be added/deleted.          |
| index     | <i>Integer</i>    | Rule with specified number in the list will be removed. |

**History**

| Version | Description                                          |
|---------|------------------------------------------------------|
| 2.00    | The <b>upnp forward</b> command has been introduced. |

## 3.158 upnp lan

**Description**

Set LAN interface where the *UPnP* service is running. The service works for one network segment only.

Command with **no** prefix removes setting.

**Prefix no** Yes**Change settings** Yes**Multiple input** No**Interface type** IP**Synopsis**

```
(config)> upnp lan <interface>
```

```
(config)> no upnp lan
```

**Arguments**

| Argument  | Value            | Description                                                                                                                |
|-----------|------------------|----------------------------------------------------------------------------------------------------------------------------|
| interface | <i>Interface</i> | Full interface name or an alias. You can see the list of available interfaces with help of <b>interface</b> [Tab] command. |

**Example**

```
(config)> upnp lan [Tab]

Usage template:
    lan {interface}

Choose:
    GigabitEthernet1
    ISP
WifiMaster0/AccessPoint2
WifiMaster1/AccessPoint1
WifiMaster0/AccessPoint3
WifiMaster0/AccessPoint0
    AccessPoint
WifiMaster1/AccessPoint2
WifiMaster0/AccessPoint1
    GuestWiFi

(config)> upnp lan PPTP0
using LAN interface: PPTP0.
```

History

| Version | Description                                      |
|---------|--------------------------------------------------|
| 2.00    | The <b>upnp lan</b> command has been introduced. |

# 3.159 upnp redirect

**Description** Add [UPnP](#) port translation rule.

Command with **no** prefix removes rule from the list. If you use no arguments, the entire list of rules will be removed.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** Yes

**Interface type** IP

**Synopsis**

```
(config)> upnp redirect <protocol> <interface> <port> <to-address> [
to-port ]

(config)> no upnp redirect [and forward | [ <index> | ( <protocol> <port> )
]]
```

Arguments

| Argument  | Value     | Description                                                  |
|-----------|-----------|--------------------------------------------------------------|
| protocol  | tcp       | Rule for <a href="#">TCP</a> protocol will be added/deleted. |
|           | udp       | Rule for <a href="#">UDP</a> protocol will be added/deleted. |
| interface | Interface | Rule for specified interface name will be added.             |

| Argument    | Value             | Description                                                |
|-------------|-------------------|------------------------------------------------------------|
| port        | <i>Integer</i>    | Rule for specified port will be added/deleted.             |
| to-address  | <i>IP address</i> | Rule for specified destination address will be added.      |
| to-port     | <i>Integer</i>    | Rule for specified destination port will be added.         |
| and forward | <i>Keyword</i>    | Lists of forwarding and redirecting rules will be cleared. |
| index       | <i>Integer</i>    | Rule with specified number in the list will be removed.    |

**History**

| Version | Description                                           |
|---------|-------------------------------------------------------|
| 2.00    | The <b>upnp redirect</b> command has been introduced. |

## 3.160 user

**Description**

Access to a group of commands to configure user account parameters. If specified user is not found, the command tries to create it.

Note: Account with reserved name admin can not be removed. In addition, the admin user can not lose the access right to command line.

Command with **no** prefix removes user account.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

Yes

**Group entry**

(config-user)

**Synopsis**

```
(config)> user <name>
```

```
(config)> no user <name>
```

**Arguments**

| Argument | Value         | Description    |
|----------|---------------|----------------|
| name     | <i>String</i> | The user name. |

**History**

| Version | Description                                  |
|---------|----------------------------------------------|
| 2.00    | The <b>user</b> command has been introduced. |

## 3.160.1 user password generate

**Description** Start generating a new random password (without saving) for the user account.

Returns a string — a random password consisting of uppercase and lowercase ASCII letters and numbers with a length of 15 characters.

**Prefix no** No

**Change settings** Yes

**Multiple input** No

**Synopsis** `(config-user)> password generate`

**Example**

```
(config-user)> password generate
password: RvHQYN6iaQdhYDG
```

**History**

| Version | Description                                                    |
|---------|----------------------------------------------------------------|
| 4.03    | The <b>user password generate</b> command has been introduced. |

## 3.160.2 user password md5

**Description** Set the MD5 hash (Message-Digest Algorithm 5) password.

Command with **no** prefix removes the MD5 hash password.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Synopsis**

```
(config-user)> password md5 <hash>
(config-user)> no password md5
```

**Arguments**

| Argument | Value         | Description     |
|----------|---------------|-----------------|
| hash     | <i>String</i> | MD5 hash value. |

**Example**

```
(config-user)> password md5 5d505c920ed64c8ff3dc4bfefd4dc262
Core::Authenticator: Md5 password has been set for user "test2".
```

```
(config-user)> password md5 5d505c920ed64c8ff3dc4bfefd4dc262
Core::Authenticator: User "test2" md5 password deleted.
```

**History**

| Version | Description                                               |
|---------|-----------------------------------------------------------|
| 4.03    | The <b>user password md5</b> command has been introduced. |

## 3.160.3 user password nt

**Description**

Set the NT hash (NT LAN Manager or NTLM hash) password.

Command with **no** prefix removes the NT hash password.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

No

**Synopsis**

```
(config-user)> password nt <hash>
```

```
(config-user)> no password nt
```

**Arguments**

| Argument | Value         | Description    |
|----------|---------------|----------------|
| hash     | <i>String</i> | NT hash value. |

**Example**

```
(config-user)> password nt 5d505c920ed64c8ff3dc4bfefd4dc262
Core::Authenticator: Nt password has been set for user "test2".
```

```
(config-user)> no password nt
Core::Authenticator: User "test2" nt password deleted.
```

**History**

| Version | Description                                              |
|---------|----------------------------------------------------------|
| 4.03    | The <b>user password nt</b> command has been introduced. |

## 3.160.4 user password plain

**Description**

Set the plain text password.

Command with **no** prefix removes the password.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

No

**Synopsis**

```
(config-user)> password plain <password>
```

```
(config-user)> no password plain
```

**Arguments**

| Argument | Value         | Description                                                                                                                                                                                                            |
|----------|---------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| password | <i>String</i> | Password for authentication. Password length can be from 8 to 64 characters. It is recommended to use a combination of uppercase and lowercase letters, numbers, and special characters (!, @, \$, %, ^, &, *, +, #)). |

**Example**

```
(config-user)> password plain 12bq23BN12-.89=-
Core::Authenticator: Password set has been changed for user ►
"test2".
```

```
(config-user)> no password plain
Core::Authenticator: Passwords have been reset for a user "test2".
```

**History**

| Version | Description                                                 |
|---------|-------------------------------------------------------------|
| 4.03    | The <b>user password plain</b> command has been introduced. |

## 3.160.5 user password validate

**Description**

Verification of password compliance with requirements (e.g., length, acceptable characters, etc.).

**Prefix no**

No

**Change settings**

No

**Multiple input**

No

**Synopsis**

```
(config-user)> password validate <value>
```

**Arguments**

| Argument | Value         | Description                                                                                                                     |
|----------|---------------|---------------------------------------------------------------------------------------------------------------------------------|
| value    | <i>String</i> | Value of the password. A minimum password length of 8 characters is required. The recommended password length is 15 characters. |

**Example**

```
(config-user)> password validate Cg5ek6vKfuLNXZ8
strength: good
```

```
(config-user)> password validate Cg5ek6vKfuLN
strength: fair
length:
  required: 8
  recommended: 15
```

**History**

| Version | Description                                                    |
|---------|----------------------------------------------------------------|
| 4.03    | The <b>user password validate</b> command has been introduced. |

## 3.160.6 user tag

**Description**

Assign a special tag to the user account, which presence is checked at the time of user authorization as well as performing any action in the system. Set of permitted tag values depends on the system functionality. The full list is shown in the table below.

Several different tags can be assigned to one account by entering the command several times. Each tag can be viewed as granting or revoking certain permissions.

Command with **no** prefix removes the specified tag. If you use no argument, the entire list of tags will be cleared for the user.

Note: The admin account can not be untagged **cli**.

The admin account can not be untagged **http** if device acts as MWS Extender.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

Yes

**Synopsis**

```
(config-user)> tag <tag>
```

```
(config-user)> no tag [ <tag> ]
```

**Arguments**

| Argument | Value      | Description                                                            |
|----------|------------|------------------------------------------------------------------------|
| tag      | cli        | Access to the command line (TELNET and SSH).                           |
|          | manager    | Access for a user with limited administrator rights.                   |
|          | readonly   | Restrict commands that change the settings.                            |
|          | http-proxy | Access to the HTTP proxy.                                              |
|          | http       | Access to the Web-interface.                                           |
|          | afp        | Access to USB drives via Apple File Protocol.                          |
|          | printers   | Access to USB printers via SMB/CIFS.                                   |
|          | cifs       | Connection to the Windows files and printers service.                  |
|          | vpn-dlna   | Access to the <a href="#">DLNA</a> for PPTP, L2TP/IPSec, SSTP tunnels. |



| Argument | Value       | Description                                     |
|----------|-------------|-------------------------------------------------|
|          | ftp         | Connection to an integrated FTP server.         |
|          | ipsec-xauth | Connection to an integrated IPsec/XAuth server. |
|          | ipsec-l2tp  | Connection to an integrated L2TP/IPSec server.  |
|          | vpn-oc      | Connection to an integrated OpenConnect server. |
|          | opt         | Access to services managed by OptWare.          |
|          | sftp        | Access to SFTP file server.                     |
|          | sstp        | Connection to an integrated SSTP server.        |
|          | torrent     | Access to the BitTorrent client GUI.            |
|          | vpn         | Connection to an integrated PPTP server.        |
|          | webdav      | Access to WebDAV file server.                   |

**Example**

```
(config-user)> tag cli
```

```
Core::Authenticator: User "test" tagged with "cli".
```

```
(config-user)> tag manager
```

```
Core::Authenticator: User "test" tagged with "manager".
```

```
(config-user)> tag readonly
```

```
Core::Authenticator: User "test" tagged with "readonly".
```

```
(config-user)> tag http-proxy
```

```
Core::Authenticator: User "test" tagged with "http-proxy".
```

```
(config-user)> tag http
```

```
Core::Authenticator: User "test" tagged with "http".
```

```
(config-user)> tag afp
```

```
Core::Authenticator: User "test" tagged with "afp".
```

```
(config-user)> tag printers
```

```
Core::Authenticator: User "test" tagged with "printers".
```

```
(config-user)> tag cifs
```

```
Core::Authenticator: User "test" tagged with "cifs".
```

```
(config-user)> tag vpn-dlna
```

```
Core::Authenticator: User "test" tagged with "vpn-dlna".
```

```
(config-user)> tag ftp
```

```
Core::Authenticator: User "test" tagged with "ftp".
```

```
(config-user)> tag ipsec-xauth
```

```
Core::Authenticator: User "test" tagged with "ipsec-xauth".
```

```
(config-user)> tag ipsec-l2tp
```

```
Core::Authenticator: User "test" tagged with "ipsec-l2tp".
```

```
(config-user)> tag vpn-oc
Core::Authenticator: User "test" tagged with "vpn-oc".
```

```
(config-user)> tag opt
Core::Authenticator: User "test" tagged with "opt".
```

```
(config-user)> tag sftp
Core::Authenticator: User "test" tagged with "sftp".
```

```
(config-user)> tag sstp
Core::Authenticator: User "test" tagged with "sstp".
```

```
(config-user)> tag torrent
Core::Authenticator: User "test" tagged with "torrent".
```

```
(config-user)> tag vpn
Core::Authenticator: User "test" tagged with "vpn".
```

```
(config-user)> tag webdav
Core::Authenticator: User "test" tagged with "webdav".
```

```
(config-user)> no tag readonly
Core::Authenticator: User "test": "readonly" tag deleted.
```

```
(config-user)> no tag
Core::Authenticator: User "test" tags deleted.
```

## History

| Version | Description                                                               |
|---------|---------------------------------------------------------------------------|
| 2.00    | The <b>user tag</b> command has been introduced.                          |
| 2.04    | The <b>vpn</b> tag has been added.                                        |
| 2.06    | The <b>opt</b> , <b>ipsec-xauth</b> tags have been added.                 |
| 2.10    | The <b>http-proxy</b> tag has been added.                                 |
| 2.11    | The <b>ipsec-l2tp</b> tag has been added.                                 |
| 2.12    | The <b>sstp</b> tag has been added.                                       |
| 3.04    | The <b>vpn-dlna</b> , <b>sftp</b> and <b>webdav</b> tags have been added. |
| 4.02    | The <b>vpn-oc</b> tag has been added.                                     |
| 5.00    | The <b>manager</b> tag has been added.                                    |

## 3.161 vpn-server

|                        |                                                                   |
|------------------------|-------------------------------------------------------------------|
| <b>Description</b>     | Access to a group of commands to configure VPN server parameters. |
| <b>Prefix no</b>       | No                                                                |
| <b>Change settings</b> | No                                                                |
| <b>Multiple input</b>  | No                                                                |
| <b>Group entry</b>     | (vpn-server)                                                      |

**Synopsis**

```
(config)> vpn-server
```

**History**

| Version | Description                                        |
|---------|----------------------------------------------------|
| 2.04    | The <b>vpn-server</b> command has been introduced. |

## 3.161.1 vpn-server dhcp route

**Description**

Assign a route which is transmitted in DHCP INFORM messages to the VPN server clients.

Command with **no** prefix cancels the specified route. If you use no arguments, the entire list of routes will be cleared.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

Yes

**Synopsis**

```
(vpn-server)> dhcp route <address> <mask>
```

```
(vpn-server)> no dhcp route [ <address> <mask> ]
```

**Arguments**

| Argument | Value             | Description                                                                                                                                                      |
|----------|-------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| address  | <i>IP address</i> | Network client address.                                                                                                                                          |
| mask     | <i>IP-mask</i>    | Network client mask. There are two ways to enter the mask: the canonical form (for example, 255.255.255.0) and the form of prefix bit length (for example, /24). |

**Example**

```
(vpn-server)> dhcp route 192.168.2.0/24  
VpnServer::Manager: Added DHCP INFORM route to ►  
192.168.2.0/255.255.255.0.
```

```
(vpn-server)> no dhcp route  
VpnServer::Manager: Cleared DHCP INFORM routes.
```

**History**

| Version | Description                                                   |
|---------|---------------------------------------------------------------|
| 2.12    | The <b>vpn-server dhcp route</b> command has been introduced. |

## 3.161.2 vpn-server interface

**Description**

Bind VPN server to the specified interface.

Command with **no** prefix unbinds the interface.

**Prefix no** Yes**Change settings** Yes**Multiple input** No

**Synopsis**

```
(vpn-server)> interface <interface>
```

```
(vpn-server)> no interface
```

**Arguments**

| Argument  | Value     | Description                                                                                                                |
|-----------|-----------|----------------------------------------------------------------------------------------------------------------------------|
| interface | Interface | Full interface name or an alias. You can see the list of available interfaces with help of <b>interface</b> [Tab] command. |

**Example**

```
(vpn-server)> interface [Tab]
```

```
Usage template:
  interface {interface}
```

```
Choose:
```

```
    GigabitEthernet1
    ISP
    WifiMaster0/AccessPoint2
    WifiMaster1/AccessPoint1
    WifiMaster0/AccessPoint3
    WifiMaster0/AccessPoint0
    AccessPoint
```

```
(vpn-server)> interface GigabitEthernet0/Vlan1
VpnServer::Manager: Bound to GigabitEthernet0/Vlan1
```

```
(vpn-server)> no interface
VpnServer::Manager: Reset interface binding.
```

**History**

| Version | Description                                                  |
|---------|--------------------------------------------------------------|
| 2.04    | The <b>vpn-server interface</b> command has been introduced. |

### 3.161.3 vpn-server ipv6cp

**Description** Enable IPv6 support. DHCP IPv6 pools are created for each VPN server. By default, the setting is disabled.

Command with **no** prefix disables IPv6 support.

**Prefix no** Yes**Change settings** Yes**Multiple input** No

**Synopsis**

```
(vpn-server)> ipv6cp
```

```
(vpn-server)> no ipv6cp
```

**Example**

```
(vpn-server)> ipv6cp
VpnServer::Manager: IPv6 control protocol enabled.
```

```
(vpn-server)> no ipv6cp
VpnServer::Manager: IPv6 control protocol disabled.
```

**History**

| Version | Description                                               |
|---------|-----------------------------------------------------------|
| 3.00    | The <b>vpn-server ipv6cp</b> command has been introduced. |

## 3.161.4 vpn-server lcp echo

**Description**

Specify the testing rules of the PPTP connections with *LCP* echo tools.

Command with **no** prefix disables *LCP* echo.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

No

**Synopsis**

```
(vpn-server)> lcp echo <interval> <count> [adaptive]
```

```
(vpn-server)> no lcp echo
```

**Arguments**

| Argument | Value          | Description                                                                                                                                                                                                                         |
|----------|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| interval | <i>Integer</i> | Interval between sending <i>LCP</i> echo, in seconds. If within the specified time interval there is no <i>LCP</i> echo request from the remote location, the same request will be sent there asking for response <i>LCP</i> reply. |
| count    | <i>Integer</i> | The number of consecutive requests <i>LCP</i> echo sent, for which no response <i>LCP</i> reply was received. If count of <i>LCP</i> echo requests goes unanswered, the connection is terminated.                                   |
| adaptive | <i>Keyword</i> | Pppd will send LCP echo-request frames only if no traffic was received from the peer since the last echo-request was sent.                                                                                                          |

**Example**

```
(vpn-server)> lcp echo 5 3
LCP echo parameters updated.
```

**History**

| Version | Description                                                 |
|---------|-------------------------------------------------------------|
| 2.06    | The <b>vpn-server lcp echo</b> command has been introduced. |

## 3.161.5 vpn-server lockout-policy

**Description**

Set VPN server bruteforce detection parameters. By default, feature is enabled. If you use 0 as an argument, all bruteforce detection parameters will be reset to default.

Command with **no** prefix disables bruteforce detection.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

No

**Synopsis**

```
(vpn-server)> lockout-policy <threshold> [ <duration> [
<observation-window> ] ]
```

```
(vpn-server)> no lockout-policy
```

**Arguments**

| Argument           | Value          | Description                                                                                                                              |
|--------------------|----------------|------------------------------------------------------------------------------------------------------------------------------------------|
| threshold          | <i>Integer</i> | The number of failed attempts to log in. By default, 5 value is used. Can take values in the range from 2 to 20.                         |
| duration           | <i>Integer</i> | An authorization ban duration for the specified IP in minutes. By default, 15 value is used. Can take values in the range from 1 to 120. |
| observation-window | <i>Integer</i> | Duration of suspicious activity observation in minutes. By default, 3 value is used. Can take values in the range from 1 to 20.          |

**Example**

```
(vpn-server)> lockout-policy 10 30 2
VpnServer::Manager: Bruteforce detection is reconfigured.
```

```
(vpn-server)> no lockout-policy
VpnServer::Manager: Bruteforce detection is disabled.
```

```
(vpn-server)> lockout-policy 0
VpnServer::Manager: Bruteforce detection reset to default.
```

**History**

| Version | Description                                                       |
|---------|-------------------------------------------------------------------|
| 3.01    | The <b>vpn-server lockout-policy</b> command has been introduced. |

## 3.161.6 vpn-server mppe

**Description** Set mode for *MPPE* encryption. 40-bit key is used by default.

Command with **no** prefix disables selected mode.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** Yes

**Synopsis**

```
(vpn-server)> mppe <mode>
(vpn-server)> no mppe <mode>
```

**Arguments**

| Argument | Value | Description                               |
|----------|-------|-------------------------------------------|
| mode     | 40    | Length of the encryption key is 40 bits.  |
|          | 128   | Length of the encryption key is 128 bits. |

**Example**

```
(vpn-server)> mppe 40
VpnServer::Manager: Set encryption 40.
```

**History**

| Version | Description                                             |
|---------|---------------------------------------------------------|
| 2.05    | The <b>vpn-server mppe</b> command has been introduced. |

## 3.161.7 vpn-server mppe-optional

**Description** Allow connections without *MPPE* encryption. By default, the feature is enabled.

Command with **no** prefix deny unencrypted connections.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Synopsis**

```
(vpn-server)> mppe-optional
(vpn-server)> no mppe-optional
```

**Example**

```
(vpn-server)> mppe-optional
VpnServer::Manager: Unencrypted connections enabled.
```

```
(vpn-server)> no mppe-optional
VpnServer::Manager: Unencrypted connections disabled.
```

**History**

| Version | Description                                                      |
|---------|------------------------------------------------------------------|
| 2.04    | The <b>vpn-server mppe-optional</b> command has been introduced. |

## 3.161.8 vpn-server mru

**Description**

Set *MRU* value to be transmitted to PPTP server. By default, 1350 value is used.

Command with **no** prefix resets value to default.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

No

**Synopsis**

```
(vpn-server)> mru <value>
```

```
(vpn-server)> no mru
```

**Arguments**

| Argument | Value          | Description                                                                  |
|----------|----------------|------------------------------------------------------------------------------|
| value    | <i>Integer</i> | <i>MRU</i> value. Can take values in the range from 128 to 1500 inclusively. |

**Example**

```
(vpn-server)> mru 200
VpnServer::Manager: mru set to 200.
```

**History**

| Version | Description                                            |
|---------|--------------------------------------------------------|
| 2.04    | The <b>vpn-server mru</b> command has been introduced. |

## 3.161.9 vpn-server mtu

**Description**

Set *MTU* value to be transmitted to PPTP server. By default, 1350 value is used.

Command with **no** prefix resets value to default.

**Prefix no**

Yes

**Change settings**

Yes

**Multiple input**

No

**Synopsis**

```
(vpn-server)> mtu <value>
```

```
(vpn-server)> no mtu
```



| Arguments | Argument | Value          | Description                                                                  |
|-----------|----------|----------------|------------------------------------------------------------------------------|
|           | value    | <i>Integer</i> | <i>MTU</i> value. Can take values in the range from 128 to 1500 inclusively. |

**Example**

```
(vpn-server)> mtu 200
VpnServer::Manager: mtu set to 200.
```

| History | Version | Description                                            |
|---------|---------|--------------------------------------------------------|
|         | 2.04    | The <b>vpn-server mtu</b> command has been introduced. |

## 3.161.10 vpn-server multi-login

**Description** Allow connection to VPN server for multiple users from one account.  
Command with **no** prefix disables this feature.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Synopsis**

```
(vpn-server)> multi-login
(vpn-server)> no multi-login
```

**Example**

```
(vpn-server)> multi-login
VpnServer::Manager: multi login enabled.
```

| History | Version | Description                                                    |
|---------|---------|----------------------------------------------------------------|
|         | 2.04    | The <b>vpn-server multi-login</b> command has been introduced. |

## 3.161.11 vpn-server pool-range

**Description** Assign a pool of addresses for the clients that connect to the VPN server.  
Command with **no** prefix removes a pool.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Synopsis**

```
(vpn-server)> pool-range <begin> [ <size> ]
```

```
(vpn-server)> no pool-range
```

**Arguments**

| Argument | Value             | Description                                                                                                                                             |
|----------|-------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|
| begin    | <i>IP address</i> | Start address of pool.                                                                                                                                  |
| size     | <i>Integer</i>    | Pool size. Can take values in the range from 1 to 64 inclusively. If the size is not specified, it is determined automatically depending on the device. |

**Example**

```
(vpn-server)> pool-range 172.168.1.22 20
VpnServer::Manager: Configured pool range 172.168.1.22 to ►
172.168.1.41.
```

```
(vpn-server)> no pool-range
VpnServer::Manager: Reset pool range.
```

**History**

| Version | Description                                                   |
|---------|---------------------------------------------------------------|
| 2.04    | The <b>vpn-server pool-range</b> command has been introduced. |

## 3.161.12 vpn-server session-logout

**Description** Terminate an active or stalled session on the VPN server.

**Prefix no** No

**Change settings** Yes

**Multiple input** No

**Synopsis**

```
(vpn-server)> session-logout <session>
```

**Arguments**

| Argument | Value          | Description                                                                                       |
|----------|----------------|---------------------------------------------------------------------------------------------------|
| session  | <i>Integer</i> | Identifier of the PPTP session (can be viewed using the <a href="#">show vpn-server</a> command). |

**Example**

```
(vpn-server)> session-logout 1
VpnServer::Manager: Session "1" is terminated.
```

**History**

| Version | Description                                                       |
|---------|-------------------------------------------------------------------|
| 4.03    | The <b>vpn-server session-logout</b> command has been introduced. |

### 3.161.13 vpn-server session-preempt

**Description** Enable to preempt VPN sessions when **vpn-server multi-login** option is disabled for the PPTP server.

Command with **no** prefix disables the preempt.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Synopsis**

```
(vpn-server)> session-preempt
(vpn-server)> no session-preempt
```

**Example**

```
(vpn-server)> session-preempt
VpnServer::Manager: Enabled sessions preemption.
```

```
(vpn-server)> no session-preempt
VpnServer::Manager: Disabled session preemption.
```

**History**

| Version | Description                                                        |
|---------|--------------------------------------------------------------------|
| 4.03    | The <b>vpn-server session-preempt</b> command has been introduced. |

### 3.161.14 vpn-server static-ip

**Description** Bind IP address to the user. User account must have vpn tag.

Command with **no** prefix removes binding.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** Yes

**Synopsis**

```
(vpn-server)> static-ip <name> <address>
(vpn-server)> no static-ip <name>
```

**Arguments**

| Argument | Value             | Description         |
|----------|-------------------|---------------------|
| name     | <i>String</i>     | Username.           |
| address  | <i>IP address</i> | IP address to bind. |

**Example**

```
(vpn-server)> static-ip test 172.16.1.35  
VpnServer::Manager: Static IP 172.16.1.35 assigned to user "test".
```

```
(vpn-server)> static-ip test  
VpnServer::Manager: Static IP address removed for user "test".
```

**History**

| Version | Description                                                  |
|---------|--------------------------------------------------------------|
| 2.04    | The <b>vpn-server static-ip</b> command has been introduced. |

# Glossary

|                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|-----------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Address and Control Field Compression         | <a href="#">LCP</a> configuration option that provides a method to negotiate the compression of the Data Link Layer Address and Control fields.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Address Resolution Protocol                   | is a protocol for mapping an Internet Protocol address (IP address) to a physical machine address that is recognized in the local network. For example, in IP Version 4, the most common level of IP in use today, an address is 32 bits long. In an Ethernet local area network, however, addresses for attached devices are 48 bits long. (The physical machine address is also known as a Media Access Control or MAC address.) A table, usually called the ARP cache, is used to maintain a correlation between each MAC address and its corresponding IP address. ARP provides the protocol rules for making this correlation and providing address conversion in both directions. |
| Authenticated Encryption with Associated Data | this form of encryption which simultaneously assure the confidentiality and authenticity of data. AEAD is a variant of AE that allows a recipient to check the integrity of both the encrypted and unencrypted information in a message.                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Automatic Certificate Management Environment  | is a communications protocol for automating interactions between certificate authorities and their users' web servers, allowing the automated deployment of public key infrastructure at very low cost. It was designed by the Internet Security Research Group (ISRG) for their Let's Encrypt service.                                                                                                                                                                                                                                                                                                                                                                                 |
| Band Steering                                 | is a feature that encourages dual-band capable wireless clients to connect to the less crowded 5GHz network, and leave the 2.4GHz network available for those clients who support 2.4GHz only; thus, Wi-Fi performance can be improved for all clients.                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Beamforming                                   | is a kind of radio frequency management in which an access point makes use of various antennas to transmit the exact same signal. By broadcasting various signals and examining client feedback, the wireless LAN infrastructure could very well modify the signals it transmits. This way, it can identify the ideal path the signal must follow to get to a client device. Beamforming efficiently enhances the uplink and downlink SNR performances as well as the overall network capacity.                                                                                                                                                                                         |
| Challenge-Handshake Authentication Protocol   | widely used algorithm for authentication, which provides the transfer of indirect information about user password. CHAP provides better security than <a href="#">Password Authentication Protocol</a> .                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Change of Authorization                       | is a provides a mechanism for changing RADIUS authentication and authorization session attributes. Allows you to set up an active client session.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |

|                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|-----------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Command Line Interface            | is a user interface to a computer's operating system or an application in which the user responds to a visual prompt by typing in a command on a specified line, receives a response back from the system, and then enters another command, and so forth.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Common Applications Kept Enhanced | is a shaping-capable queue discipline which uses both AQM and FQ. It combines COBALT, which is an AQM algorithm combining Code and BLUE, a shaper which operates in deficit mode, and a variant of DRR++ for flow isolation. 8-way set-associative hashing is used to virtually eliminate hash collisions. Priority queuing is available through a simplified diffserv implementation. CAKE uses a deficit-mode shaper, which does not exhibit the initial burst typical of token-bucket shapers. It will automatically burst precisely as much as required to maintain the configured throughput.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Compression Control Protocol      | is used for establishing and configuring data compression algorithms over <a href="#">PPP</a> .                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Dead Peer Detection               | is a method that network devices use to verify the current existence and availability of other peer devices.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Device Privacy Notice             | is a device privacy notice on data processing.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| DHCP                              | is a network protocol that is used to configure network devices so that they can communicate on an IP network. A DHCP client uses the DHCP protocol to acquire configuration information, such as an IP address, a default route, and one or more DNS server addresses from a DHCP server. The DHCP client then uses this information to configure its host. Once the configuration process is complete, the host is able to communicate on the Internet.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| DHCP server                       | <p>manages a pool of IP addresses and information about client configuration parameters such as default gateway, domain name, the name servers, other servers such as time servers, and so forth. On receiving a valid request, the server assigns the computer an IP address, a lease (length of time the allocation is valid), and other IP configuration parameters, such as the subnet mask and the default gateway. Depending on implementation, the DHCP server may have three methods of allocating IP-addresses:</p> <ul style="list-style-type: none"><li>• <i>dynamic allocation</i>: A network administrator assigns a range of IP addresses to DHCP, and each client computer on the LAN is configured to request an IP address from the DHCP server during network initialization. The request-and-grant process uses a lease concept with a controllable time period, allowing the DHCP server to reclaim (and then reallocate) IP addresses that are not renewed.</li><li>• <i>automatic allocation</i>: The DHCP server permanently a free IP address to a requesting client from the range defined by the administrator. This is like dynamic allocation, but the DHCP server keeps a table of past IP address assignments, so that it can preferentially assign to a client the same IP address that the client previously had.</li><li>• <i>static allocation</i>: The DHCP server allocates an IP address based on a table with MAC address/IP address pairs, which are manually filled</li></ul> |

in (perhaps by a network administrator). Only requesting clients with a MAC address listed in this table will be allocated an IP address. This feature (which is not supported by all DHCP servers) is variously called Static DHCP Assignment (by DD-WRT), fixed-address (by the dhcpd documentation), Address Reservation (by Netgear), DHCP reservation or Static DHCP (by Cisco/Linksys), and IP reservation or MAC/IP binding (by various other router manufacturers).

|                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|--------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DHCPv6 server      | is a network protocol for configuring Internet Protocol version 6 (IPv6) hosts with IP addresses, IP prefixes, default route, local segment MTU, and other configuration data required to operate in an IPv6 network. IPv6 hosts may automatically generate IP addresses internally using <a href="#">stateless address autoconfiguration</a> <sup>1</sup> (SLAAC), or they may be assigned configuration data with DHCPv6.                                                                                                                            |
| Diffie-Hellman     | is that part of the <a href="#">IKE</a> protocol used for exchanging the material from which the symmetrical keys are built. The Diffie-Hellman algorithm builds an encryption key known as a "shared secret" from the private key of one party and the public key of the other. Since the <a href="#">IPsec</a> symmetrical keys are derived from this DH key shared between the peers, at no point are symmetric keys actually exchanged.                                                                                                            |
| DLNA               | standard that allows compatible devices to transfer media content (images, music, videos) over the home network and display it in real time. This technology is to connect home computers, mobile phones, notebooks and home electronics in a single digital network. DLNA-certified devices can be configured and combined in a home network automatically.                                                                                                                                                                                           |
| Domain Name System | is a hierarchical distributed naming system for computers, services, or any resource connected to the Internet or a private network. It associates various information with domain names assigned to each of the participating entities. A Domain Name Service resolves queries for these names into IP addresses for the purpose of locating computer services and devices worldwide. By providing a worldwide, distributed keyword-based redirection service, the Domain Name System is an essential component of the functionality of the Internet. |
| DNS over HTTPS     | is a domain name system, computer distributed system for obtaining information about domains using secure data transfer between internet nodes resolution via the HTTPS protocol. The method is to increase user privacy and security by preventing eavesdropping and manipulation of DNS data by man-in-the-middle attacks. The standard is described in <a href="#">RFC 8484</a> <sup>2</sup> .                                                                                                                                                      |
| DNS over TLS       | is a domain name system, computer distributed system for obtaining information about domains using secure data transfer between internet nodes. The standard is described in <a href="#">RFC 7858</a> <sup>3</sup> and <a href="#">RFC 8310</a> <sup>4</sup> .                                                                                                                                                                                                                                                                                         |

<sup>1</sup> [https://en.wikipedia.org/wiki/IPv6#Stateless\\_address\\_autoconfiguration\\_\(SLAAC\)](https://en.wikipedia.org/wiki/IPv6#Stateless_address_autoconfiguration_(SLAAC))

<sup>2</sup> <https://tools.ietf.org/html/rfc8484>

<sup>3</sup> <https://tools.ietf.org/html/rfc7858>

<sup>4</sup> <https://tools.ietf.org/html/rfc8310>

|                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|----------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DNS rebinding                    | is a method of manipulating resolution of domain names. In this attack, a malicious web page causes visitors to run a client-side script that attacks machines elsewhere on the network. This attack can be used to breach a private network by causing the victim's web browser to access computers at private IP addresses and return the results to the attacker.                                                                                                                                        |
| Energy-Efficient Ethernet        | also Green Ethernet<br><br>is a set of enhancements to the twisted-pair and backplane Ethernet family of computer networking standards that reduce power consumption during periods of low data activity. The intention is to reduce power consumption by 50% or more, while retaining full compatibility with existing equipment.                                                                                                                                                                          |
| Encapsulating Security Payload   | is a member of the <a href="#">IPsec</a> protocol suite. In IPsec it provides origin authenticity, integrity, and confidentiality protection of packets.                                                                                                                                                                                                                                                                                                                                                    |
| End-user license agreement       | is a legal contract between a software application author or publisher and the user of that application.                                                                                                                                                                                                                                                                                                                                                                                                    |
| Fast Transition                  | is a new concept of roaming where the initial handshake with the new AP is done even before the client roams to the target AP.                                                                                                                                                                                                                                                                                                                                                                              |
| Fair Queuing Controlled Delay    | is queuing discipline that combines Fair Queuing with the CoDel AQM scheme. FQ_Codel uses a stochastic model to classify incoming packets into different flows and is used to provide a fair share of the bandwidth to all the flows using the queue. Each such flow is managed by the CoDel queuing discipline.                                                                                                                                                                                            |
| Fully Qualified Domain Name      | is a domain name that specifies its exact location in the tree hierarchy of the <a href="#">Domain Name System</a> . It specifies all domain levels, including the top-level domain and the root zone. A fully qualified domain name is distinguished by its lack of ambiguity: it can be interpreted only in one way.                                                                                                                                                                                      |
| Full Cone NAT                    | also Static NAT, one to one NAT, port forwarding<br><br>is the only type of NAT where the port is permanently open and allows inbound connections from any external host. A full cone NAT maps a public IP address and port to a LAN IP and port. Any external host can send data to the LAN IP through the mapped NAT IP and port. If it tries to send data through a different port it will fail. Static NAT is required when a network device on a private network must be accessible from the Internet. |
| Generic Routing Encapsulation    | is a tunneling protocol developed by Cisco Systems that can encapsulate a wide variety of network layer protocols inside virtual point-to-point links over an Internet Protocol network.                                                                                                                                                                                                                                                                                                                    |
| Hash Message Authentication Code | is a specific construction for calculating a message authentication code (MAC) involving a cryptographic hash function in combination with a secret cryptographic key. As with any MAC, it may be used to simultaneously verify both the data integrity and the authentication of a message. Any cryptographic hash function, such as MD5 or SHA-1,                                                                                                                                                         |



|                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|---------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                             | may be used in the calculation of an HMAC; the resulting MAC algorithm is termed HMAC-MD5 or HMAC-SHA1 accordingly. The cryptographic strength of the HMAC depends upon the cryptographic strength of the underlying hash function, the size of its hash output, and on the size and quality of the key.                                                                                                                                                                                                                                                                                                                                                       |
| HTTP Proxy                                  | Hypertext Transfer Protocol (HTTP) and HTTPS (HyperText Transfer Protocol Secure) Proxy is a proxy server that uses the Hypertext Transfer Protocol (HTTP) to connect to a web server and a client (browser). HTTPS (HyperText Transfer Protocol Secure) proxies work with SSL (Secure Socket Layer), which is an additional layer of security imposed on HTTP to protect its data. It supports security certificates, which are used to end-to-end encrypt traffic and prevent data interception during transmission. A proxy server that supports SSL establishes a secure connection to the client and to the web server to avoid any outside interference. |
| Idempotence                                 | is the property of certain operations in computer science, that they can be applied multiple times without changing the result beyond the initial application.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Inter-Access Point Protocol                 | is a standard IEEE 802.11F protocol exchange of service information for data transfer between access points. The protocol is responsible for combining the wireless network, secure data exchange between the current access point and the new access point in the specified period.                                                                                                                                                                                                                                                                                                                                                                           |
| Internet Control Message Protocol           | is a message control and error-reporting protocol between a host server and a gateway to the Internet. ICMP uses Internet Protocol (IP) datagrams, but the messages are processed by the IP software and are not directly apparent to the application user.                                                                                                                                                                                                                                                                                                                                                                                                    |
| Internet Control Message Protocol version 6 | is the implementation of the Internet Control Message Protocol (ICMP) for Internet Protocol version 6 (IPv6). ICMPv6 is an integral part of IPv6 and performs error reporting and diagnostic functions. ICMPv6 is defined in <a href="https://datatracker.ietf.org/doc/html/rfc4443">RFC 4443</a> <sup>5</sup> .                                                                                                                                                                                                                                                                                                                                               |
| Internet Group Management Protocol          | is an Internet protocol that provides a way for an Internet computer to report its multicast group membership to adjacent routers. Multicasting allows one computer on the Internet to send content to multiple other computers. Multicasting can be used for streaming media to an audience that has "tuned in" by setting up a multicast group membership.                                                                                                                                                                                                                                                                                                   |
| Internet Key Exchange                       | is a standard protocol IPsec, used to ensure the safety of interaction in virtual private networks. IKE purpose is to establish a secure authenticated communication channel by using the <a href="#">Diffie-Hellman</a> key exchange algorithm to generate a shared secret key to encrypt further <a href="#">IPsec</a> communications.                                                                                                                                                                                                                                                                                                                       |
| Internet Protocol                           | is the principal communications protocol in the Internet. The first major version of IP, Internet Protocol Version 4 (IPv4), is the dominant protocol of the Internet. Its successor is Internet Protocol Version 6 (IPv6).                                                                                                                                                                                                                                                                                                                                                                                                                                    |

<sup>5</sup> <https://datatracker.ietf.org/doc/html/rfc4443>

|                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Internet Protocol Control Protocol | is a network control protocol for establishing and configuring Internet Protocol over a <a href="#">Point-to-Point Protocol</a> (PPP) link. IPCP uses the same packet exchange mechanism as the Link Control Protocol. IPCP packets may not be exchanged until PPP has reached the Network-Layer Protocol phase, and any IPCP packets received before this phase is reached should be silently discarded.                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Internet Protocol Security         | commonly called IPsec, is a protocol suite for secure <a href="#">Internet Protocol</a> (IP) communications by authenticating and encrypting each IP packet of a communication session. IPsec includes protocols for establishing mutual authentication between agents at the beginning of the session and negotiation of cryptographic keys to be used during the session. IPsec can be used in protecting data flows between a pair of hosts (host-to-host), between a pair of security gateways (network-to-network), or between a security gateway and a host (network-to-host). Internet Protocol security (IPsec) uses cryptographic security services to protect communications over Internet Protocol (IP) networks. IPsec supports network-level peer authentication, data origin authentication, data integrity, data confidentiality (encryption), and replay protection. |
| IPsec Passthrough                  | is technology that allows VPN-traffic to pass through NAT.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| IPsec Security Association         | is fundamental to IPsec. An SA is a relationship between two or more entities that describes how the entities will use security services to communicate securely. Each IPsec connection can provide encryption, integrity, authenticity, or all three. When the security service is determined, the two IPsec peers must determine exactly which algorithms to use (for example, DES or 3DES for encryption, MD5 or SHA for integrity). After deciding on the algorithms, the two devices must share session keys. The Security Association is the method that IPsec uses to track all the particulars concerning a given IPsec communication session.                                                                                                                                                                                                                               |
| IP in IP                           | is an IP tunneling protocol that encapsulates one IP packet in another IP packet.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| IPv6CP                             | is responsible for configuring, enabling, and disabling the IPv6 protocol modules on both ends of the <a href="#">Point-to-Point</a> (PPP) link. IPv6CP uses the same packet exchange mechanism as the <a href="#">Link Control Protocol</a> . IPv6CP packets may not be exchanged until PPP has reached the Network-Layer Protocol phase. IPv6CP packets received before this phase is reached should be silently discarded.                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Layer 2 Tunneling Protocol         | is a tunneling protocol used to support virtual private networks (VPNs) or as part of the delivery of services by ISPs. It does not provide any encryption or confidentiality by itself. Rather, it relies on an encryption protocol that it passes within the tunnel to provide privacy.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Link Control Protocol              | establishes, configures, and tests data-link Internet connections in the <a href="#">Point-to-Point Protocol</a> (PPP). Before establishing communications over a point-to-point link, each end of the PPP link must send out LCP packets. The LCP packet either accepts or rejects the identity of its linked peer, agrees up on packet size limits, and looks for common misconfiguration errors.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |

|                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|-------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                     | <p>LCP packets are divided into three classes:</p> <ul style="list-style-type: none"><li>• Link configuration packets used to establish and configure a link</li><li>• Link termination packets used to terminate a link</li><li>• Link maintenance packets used to manage and debug a link</li></ul>                                                                                                                                                                                                                                                                                                                                                                                                            |
| Link Layer Discovery Protocol       | <p>is a vendor-neutral link layer protocol in the Internet Protocol Suite used by network devices for advertising their identity, capabilities, and neighbors on an IEEE 802 local area network, principally wired Ethernet.</p> <p>Information gathered with LLDP is stored in the device as a management information database (MIB) and can be queried with the Simple Network Management Protocol (SNMP).</p>                                                                                                                                                                                                                                                                                                 |
| Low-Density Parity-Check            | <p>is a linear error correcting code, a method of transmitting a message over a noisy transmission channel. An LDPC is constructed using a sparse bipartite graph. LDPC codes are capacity-approaching codes, which means that practical constructions exist that allow the noise threshold to be set very close (or even arbitrarily close on the BEC) to the theoretical maximum (the Shannon limit) for a symmetric memoryless channel. The noise threshold defines an upper bound for the channel noise, up to which the probability of lost information can be made as small as desired. Using iterative belief propagation techniques, LDPC codes can be decoded in time linear to their block length.</p> |
| Maximum Receive Unit                | <p>is the maximum size (in bytes) of the frame, which can be received at the data link layer of communication protocol.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Maximum Segment Size                | <p>is a parameter of the options field of the <a href="#">TCP</a> header that specifies the largest amount of data, specified in bytes, that a computer or communications device can receive in a single TCP segment. It does not count the TCP header or the IP header.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Maximum Transmission Unit           | <p>is the largest size packet or frame, specified in octets (eight-bit bytes), that can be sent in a packet- or frame-based network such as the Internet. The Internet's Transmission Control Protocol (TCP) uses the MTU to determine the maximum size of each packet in any transmission. Most computer operating systems provide a default MTU value that is suitable for most users. In general, Internet users should follow the advice of their Internet service provider (ISP) about whether to change the default value and what to change it to.</p>                                                                                                                                                    |
| Microsoft Point-to-Point Encryption | <p>encrypts data in <a href="#">Point-to-Point Protocol</a> based dial-up connections or Point-to-Point Tunneling Protocol (PPTP) connections. 128-bit key (strong), 56-bit key, and 40-bit key (standard) MPPE encryption schemes are supported. MPPE provides data security for the PPTP connection that is between the VPN client and the VPN server.</p>                                                                                                                                                                                                                                                                                                                                                     |
| Modular Wi-Fi System                | <p>a system that allows several devices to be combined into a single Internet space distributed over an area. One of the devices is defined as the controller, the others as the members.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |

|                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|-----------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Network Access Control List                   | rules that are applied to IP interfaces that are available on a router, each with a list of hosts or networks that are permitted or denied to use the service. Access control lists can be configured to control both inbound and outbound traffic.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Network Flow                                  | network protocol for network traffic accounting, uses UDP or SCTP protocols to send traffic data to the collector. Collector is an application that runs on a server and collects statistics received from sensors. A sensor is a device that collects traffic statistics and sends it to a collector. The sensor can be a Cisco third-level router or switch.                                                                                                                                                                                                                                                                                                                                                                                        |
| NEXTDNS                                       | service of NextDNS protects you from all kinds of security threats, blocks ads and trackers on websites and in apps and provides a safe and supervised Internet for kids — on all devices and on all networks.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Network Time Protocol                         | is a protocol that is used to synchronize computer clock times in a network of computers. Developed by David Mills at the University of Delaware, NTP is now an Internet standard. In common with similar protocols, NTP uses Coordinated Universal Time (UTC) to synchronize computer clock times to a millisecond, and sometimes to a fraction of a millisecond.                                                                                                                                                                                                                                                                                                                                                                                    |
| Network Traffic Classification Engine         | <p>also DPI, Deep Deep Packet Inspection</p> <p>is a technology for accumulating statistics and inspecting network packets based on their contents. Deep Packet Inspection analyzes not only packet headers, but also the full content of traffic at OSI layers 2 and above.</p> <p>Deep Packet Inspection can determine which network application has generated or received data, collecting detailed connection statistics for each device and application individually. With quality of service Deep Packet Inspection controls the transmission speed of individual packets by raising or lowering it.</p> <p>The Traffic Classification Engine component operates completely independently and does not make any calls to external services.</p> |
| OpenConnect                                   | is a free and open-source cross-platform multi-protocol virtual private network (VPN) client software which implement secure point-to-point connections.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Opportunistic Wireless Encryption             | is an extension of the IEEE 802.11 standard, similar encryption method Simultaneous Authentication of Equals (SAE). This encryption method provides users with better protection when connected to an open Wi-Fi network.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Orthogonal Frequency-Division Multiple Access | is a new feature of 802.11ax that divides available channel bandwidth into several mutual orthogonal subcarriers or resource units. Access to multiple users is granted in OFDMA by assigning subsets of these subcarriers to individual users. The 802.11ax OFDMA is both uplink and downlink.                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Password Authentication Protocol              | is an authentication protocol that uses a password. PAP is used by <a href="#">Point-to-Point Protocol</a> to validate users before allowing them access to                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |

|                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|----------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                              | the remote network. PAP transmits unencrypted ASCII passwords over the network and is therefore considered insecure.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Protected Extensible Authentication Protocol | is a protocol that encapsulates the Extensible Authentication Protocol (EAP) within an encrypted and authenticated Transport Layer Security (TLS) tunnel. The purpose was to correct deficiencies in EAP; EAP assumed a protected communication channel, such as that provided by physical security, so facilities for protection of the EAP conversation were not provided.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Perfect Forward Secrecy                      | is a property of secure communication protocols: a secure communication protocol is said to have forward secrecy if compromise of long-term keys does not compromise past session keys. PFS protects past sessions against future compromises of secret keys or passwords.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Ping Check                                   | performs ICMP and TCP based tests to verify if the internet connection is working fine. Test results may be used to switch between primary and backup connections.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Pairwise Master Key                          | is a cryptographic private key used in wireless networks to establish secure communication between devices. PMK is derived from a pre-shared key (PSK) or another authentication mechanism, and it serves as the foundation for generating encryption keys for pairwise communication. The PMK is primarily used in the IEEE 802.11i standard.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Point-to-Point Protocol                      | is a protocol used to establish a direct connection between two nodes. It can provide connection authentication, transmission encryption, and compression. PPP is used over many types of physical networks including serial cable, phone line, cellular telephone, specialized radio links, and fiber optic links. After the link has been established, additional network (layer 3) configuration may take place. Most commonly, the <a href="#">Internet Protocol Control Protocol</a> (IPCP) is used.                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Preamble                                     | <p>it is the first part of the Physical Layer Convergence Protocol/Procedure (PLCP) Protocol Data Unit (PDU). A header is the remaining part of the data packets and has more information identifying the modulation scheme, transmission rate, and length of time to transmit the whole data frame.</p> <p>The Preamble type in IEEE 802.11 based wireless communication defines the length of the CRC (Cyclic Redundancy Check) block for communication between the Access Point and roaming wireless adapters.</p> <p>Long preamble:</p> <ul style="list-style-type: none"><li>• PLCP with long preamble is transmitted at 1 Mbps regardless of transmit rate of data frames</li><li>• Total long preamble transfer time is a constant at 192 usec</li><li>• Compatible with legacy IEEE 802.11 systems running at 1 and 2 Mbps</li></ul> <p>Short preamble:</p> <ul style="list-style-type: none"><li>• Preamble is transmitted at 1 Mbps and header at 2 Mbps</li></ul> |

|                                               |                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-----------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                               | <ul style="list-style-type: none"><li>• Total short preamble transfer time is a constant at 96 usec</li><li>• Not compatible with legacy IEEE 802.11 systems operating at 1 and 2 Mbps</li></ul>                                                                                                                                                                                                                    |
| Protected Management Frames                   | IEEE 802.11w is the Protected Management Frames standard for the IEEE 802.11 family of standards. This functionality is necessary to improve security by ensuring data confidentiality in control frames.                                                                                                                                                                                                           |
| Protocol Field Compression                    | is a method to negotiate the compression of the <a href="#">PPP</a> Protocol field. By default, all implementations MUST transmit packets with two octet PPP Protocol fields.                                                                                                                                                                                                                                       |
| Pseudo-Random Function                        | is similar to an integrity algorithm, but instead of being used to authenticate messages, it is only used to provide randomness for purposes such as keying material. PRFs are primarily used with an authenticated encryption algorithm type such as AES-GCM.                                                                                                                                                      |
| Radio Resource Management                     | is the system level management of co-channel interference, radio resources, and other radio transmission characteristics in wireless communication systems. RRM includes control parameters such as transmit power, user allocation, beamforming, data rates, handover criteria, modulation scheme, coding scheme errors.                                                                                           |
| Remote Authentication in Dial-In User Service | is a protocol to implement authentication, authorization, and resource collection. It is used for charging the used resources by a specific user. Used to authenticate users on open Wi-Fi wireless networks.                                                                                                                                                                                                       |
| Restricted NAT                                | also Dynamic NAT<br><br>works in the same way as a <a href="#">Full Cone NAT</a> but applies additional restrictions based on an IP address. The internal client must first have sent packets to IP address (X) before it can receive packets from X. In terms of restrictions the only requirement is that packets come in on the mapped port and from an IP address that the internal client has sent packets to. |
| Secure Socket Tunneling Protocol              | is a type of VPN tunnel that utilizes an SSL 3.0 channel to send PPP or L2TP traffic. SSL allows for transmission and data encryption, as well as traffic integrity checking. Due to this, SSTP can pass through most firewalls and proxy servers by using the SSL channel over TCP port 443.                                                                                                                       |
| Service Set Identifier                        | is a sequence of characters that uniquely names a wireless local area network (WLAN). An SSID is sometimes referred to as a "network name". This name allows stations to connect to the desired network when multiple independent networks operate in the same physical area.                                                                                                                                       |
| Simple Network Management Protocol            | is an Internet-standard protocol for collecting and organizing information about managed devices on IP networks and for modifying that information to change device behavior. Devices that typically support SNMP include routers, switches, servers, workstations, printers, modem racks and more.                                                                                                                 |
| Simple Network Time Protocol                  | is an Internet Protocol (IP) used to synchronize the clocks of networks of computers.                                                                                                                                                                                                                                                                                                                               |

|                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|---------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                 | <p>SNTP is based upon the TCP/IP protocol suite. It is an application layer time protocol, part of the Network Time Protocol base protocol. Along with NTP, SNTP communicates using the User Datagram Protocol (UDP). By default, UDP port 123 is used.</p> <p>SNTP can operate on IPv4 and IPv6 networks. The standard is described in <a href="https://www.rfc-editor.org/rfc/rfc4330">RFC 4330</a><sup>8</sup>.</p>                                                                                                                     |
| SOCKS                           | <p>is an Internet protocol that exchanges network packets between a client and server through a proxy server. SOCKS5 optionally provides authentication so only authorized users may access a server. SOCKS server proxies TCP connections to an arbitrary IP address, and provides a means for UDP packets to be forwarded.</p>                                                                                                                                                                                                           |
| Shared key                      | <p>is a mode by which a computer can gain access to a wireless network that uses the Wired Equivalent Privacy protocol. With Shared Key, a computer equipped with a wireless modem can fully access any WEP network and exchange encrypted or unencrypted data.</p>                                                                                                                                                                                                                                                                        |
| Spatial Reuse                   | <p>is a The Spatial Reuse (SR) operation included in the IEEE 802.11ax-2020 (11ax) amendment aims at increasing the number of parallel transmissions in an Overlapping Basic Service Set (OBSS).</p>                                                                                                                                                                                                                                                                                                                                       |
| Transmission Control Protocol   | <p>is a core protocol of the <a href="#">Internet Protocol</a> suite. TCP provides reliable, ordered, and error-checked delivery of a stream of octets between applications running on hosts communicating over an IP network.</p>                                                                                                                                                                                                                                                                                                         |
| Target Wake Time                | <p>is a feature reduces power consumption and improves spectral efficiency by enabling devices to determine how often to wake in order to send/receive data. This technology enables 802.11ax deployments to consistently deliver higher quality of service to many different devices.</p>                                                                                                                                                                                                                                                 |
| Temporal Key Integrity Protocol | <p>is a security protocol used in the IEEE 802.11 wireless networking standard. TKIP was designed by the IEEE 802.11i task group and the Wi-Fi Alliance as an interim solution to replace WEP without requiring the replacement of legacy hardware.</p>                                                                                                                                                                                                                                                                                    |
| Universal Access Method         | <p>is a method that allows a subscriber to access a wireless Wi-Fi network. The Internet browser will open a login page where the user should fill in his credentials before he can access. UAM uses the RADIUS client and the RADIUS server for authorization.</p>                                                                                                                                                                                                                                                                        |
| User Datagram Protocol          | <p>is a core protocol of the <a href="#">Internet Protocol</a> suite. UDP uses a simple connectionless transmission model with a minimum of protocol mechanism. It has no handshaking dialogues, and thus exposes the user's program to any unreliability of the underlying network protocol. There is no guarantee of delivery, ordering, or duplicate protection. Time-sensitive applications often use UDP because dropping packets is preferable to waiting for delayed packets, which may not be an option in a real-time system.</p> |

<sup>8</sup> <https://www.rfc-editor.org/rfc/rfc4330>



|                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| udpxy                                    | is a UDP-to-HTTP multicast traffic relay daemon: it forwards UDP traffic from a given multicast subscription to the requesting HTTP client.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Universal Plug and Play                  | is a standard that uses Internet and Web protocols to enable devices such as PCs, peripherals, intelligent appliances, and wireless devices to be plugged into a network and automatically know about each other. With UPnP, when a user plugs a device into the network, the device will configure itself, acquire a TCP/IP address, and use a discovery protocol based on the HTTP to announce its presence on the network to other devices.                                                                                                                                                                                                                                                                                                                                                                          |
| Virtual LAN                              | is a local area network with a definition that maps workstations on some other basis than geographic location (for example, by department, type of user, or primary application). The virtual LAN controller can change or add workstations and manage loadbalancing and bandwidth allocation more easily than with a physical picture of the LAN.                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Web Distributed Authoring and Versioning | is a extension of the Hypertext Transfer Protocol (HTTP) that allows clients to perform remote Web content authoring operations. Supports web server authentication and SSL encryption for HTTPS using the default TCP port 443.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Web Proxy Auto-Discovery Protocol        | is a method used by clients to locate the URL of a configuration file using DHCP and/or DNS discovery methods. Once detection and download of the configuration file is complete, it can be executed to determine the proxy for a specified URL.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| WireGuard                                | is a free and open-source software application and virtual private network (VPN) protocol to create secure point-to-point connections in routed configurations. WireGuard protocol uses modern cryptography options Curve25519 for key exchange, ChaCha20 for encryption, and Poly1305 for data authentication, SipHash for hashtable keys, and BLAKE2s for hashing. Supports layer 3 for both protocols IPv4 and IPv6.                                                                                                                                                                                                                                                                                                                                                                                                 |
| Wi-Fi Multimedia                         | <p>previously known as Wireless Multimedia Extensions (WME), is a subset of the 802.11e wireless LAN (WLAN) specification that enhances quality of service (QoS) on a network by prioritizing data packets according to four access categories (AC). Ranging from highest priority to lowest, these categories are: voice (AC_VO), video (AC_VI), best effort (AC_BE), and background (AC_BK).</p> <p>WMM also features a Power Save certification that helps small devices on a network conserve battery life. Power Save allows small devices, such as phones and PDAs, to transmit data while in a low-power "dozing" status. The certification gives software developers and hardware manufacturers a way to fine-tune battery use in the ever-increasing number of small devices that have Wi-Fi capabilities.</p> |
| Wi-Fi Protected Access                   | Wi-Fi Protected Access II (WPA2), and Wi-Fi Protected Access 3 (WPA3) are three security protocols and security certification programs developed by the Wi-Fi Alliance to secure wireless computer networks. The Alliance defined these in response to serious weaknesses researchers had found in the previous system, WEP. WPA advantages are enhanced data security and tightened access control for wireless                                                                                                                                                                                                                                                                                                                                                                                                        |



|                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                    | <p>networks. Important characteristic is the compatibility between multiple wireless devices at the hardware level as well as at software level.</p> <p>WPA3 uses 128-bit encryption in WPA3-Personal mode (192-bit in WPA3-Enterprise). The WPA3 standard also replaces the Pre-Shared Key exchange with Simultaneous Authentication of Equals as defined in IEEE 802.11-2016 resulting in a more secure initial key exchange in personal mode.</p> <p>WPA Enterprise is a protocol-based authentication mode IEEE 802.1X using an external authentication server RADIUS and local client Supplicant.</p>                                                                                                                                                                                                                 |
| Wi-Fi Protected Setup              | provides an industry-wide mechanism to set up and configure networks for home and small office (SOHO) environments. Wi-Fi Protected Setup enables typical users who possess little understanding of traditional Wi-Fi configuration and security settings to easily configure new wireless networks, to add new devices and to enable security.                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Wired Equivalent Privacy           | is a security algorithm for IEEE 802.11 wireless networks. WEP, recognizable by the key of 10 or 26 hexadecimal digits, is widely in use and is often the first security choice presented to users by router configuration tools. In 2004, with the ratification of the full 802.11i standard (i.e. <a href="#">WPA2</a> ), the IEEE declared that both WEP-40 and WEP-104 have been deprecated.                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Wireless Internet Service Provider | <p>is an Internet service provider (ISP) that allows subscribers to connect to a server at designated hotspots (access points) using a wireless connection such as Wi-Fi. This type of ISP offers Broadband service and allows subscriber computers, called stations, to access the Internet and the Web from anywhere within the zone of coverage provided by the server antenna. This is usually a region with a radius of several kilometers.</p> <p>The simplest WISP is a basic service set (BSS) consisting of one server and numerous stations all linked to that server by wireless. More sophisticated WISP networks employ the extended service set (ESS) topology, consisting of two or more BSSs linked together at access points (APs). Both BSS and ESS are supported by the IEEE 802.11b specification.</p> |
| Extended Authentication            | or XAUTH, provides an additional level of authentication by allowing the <a href="#">IPsec</a> gateway to request extended authentication from remote users, thus forcing remote users to respond with their credentials before being allowed access to the VPN.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| XFRM                               | is an IP framework for transforming packets (such as encrypting their payloads) and used to implement the IPsec protocol suite. It is also used for the IP Payload Compression Protocol and features of Mobile IPv6.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| ZeroTier                           | is a distributed network hypervisor built atop a cryptographically secure global peer to peer network. It provides advanced network virtualization and management capabilities on par with an enterprise SDN switch,                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |

but across both local and wide area networks and connecting almost any kind of app or device.

All traffic is encrypted end to end on OSI layer 1 using 256-bit Salsa20 and authenticated using the Poly1305 message authentication (MAC) algorithm. MAC is computed after encryption (encrypt-then-MAC) and the cipher/MAC composition used is identical to the NaCl reference implementation.

The ZeroTier world is controlled by two types of identifier: 40-bit/10-digit *ZeroTier addresses* and 64-bit/16-digit *network IDs*. These identifiers are easily distinguished by their length. A ZeroTier address identifies a node or "device" (laptop, phone, server, VM, app, etc.) while a network ID identifies a virtual Ethernet network that can be joined by devices.

A ZeroTier address looks like 8056c2e21c and a network ID looks like 8056c2e21c000001. Network IDs are composed of the ZeroTier address of that network's primary controller and an arbitrary 24-bit ID that identifies the network on this controller.

# Interface Hierarchy

**Figure A.1. Core interfaces**

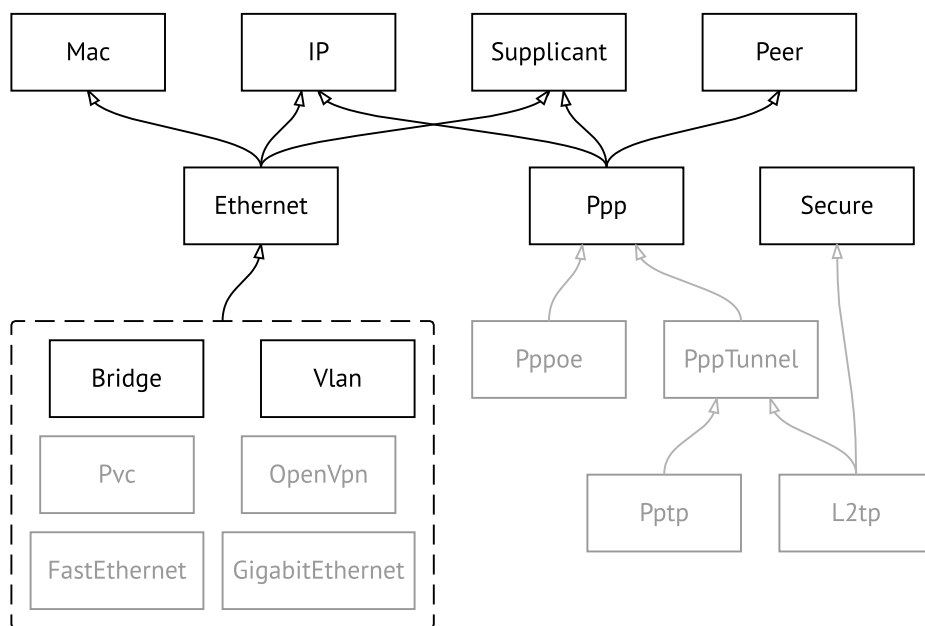


**Figure A.2. Tunnel interfaces**

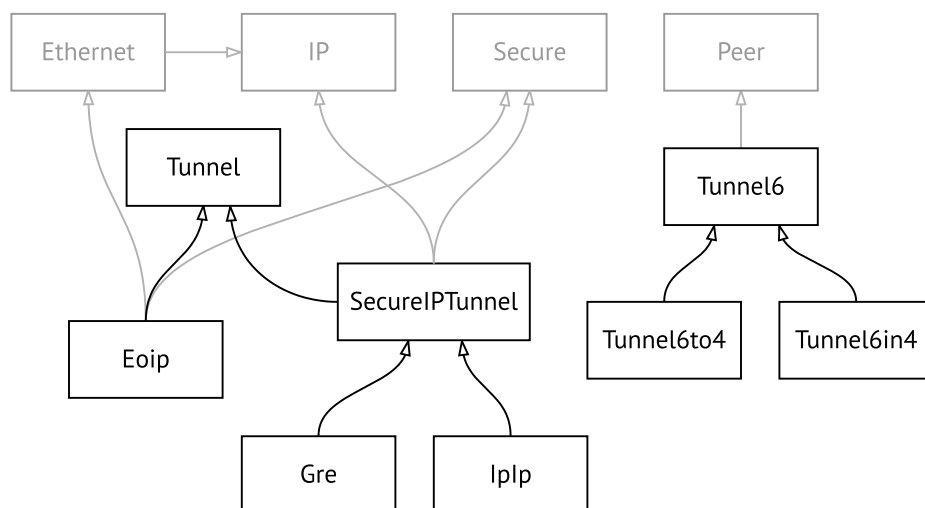
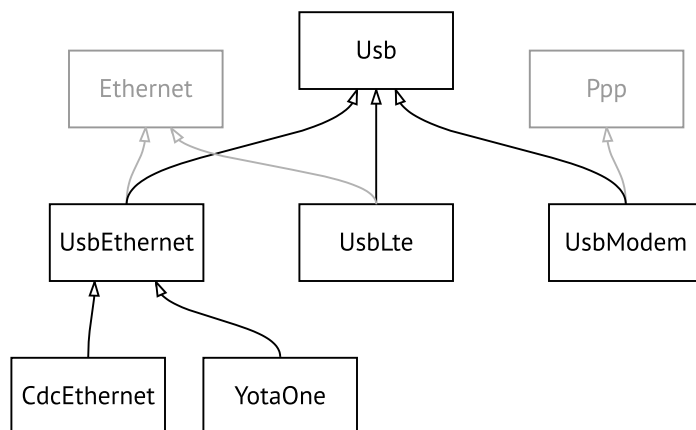
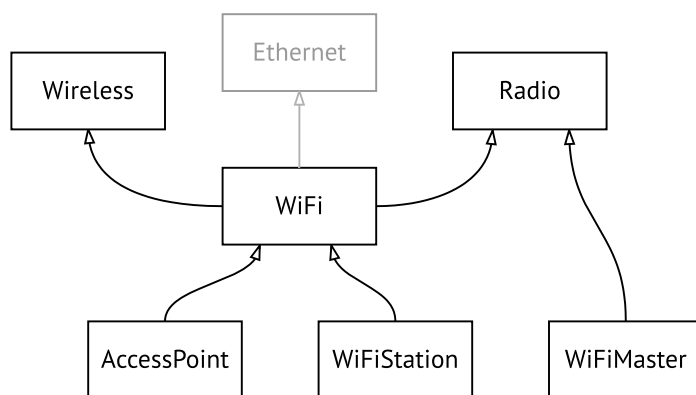


**Figure A.3. USB interfaces****Figure A.4. Wi-Fi interfaces**

# HTTP API

## B.1 REST Core Interface

Sprinter HTTP API lets you develop a custom application, that will access Sprinter settings using simple HTTP methods, such as GET and POST.

The base URL for all operations is `/rci`, that simply stands for REST Core Interface. It replaces the [XML Core Interface](#), which is now deprecated but continues to be functional.

### B.1.1 Resource Location

RCI is based on the Sprinter command tree. Device settings are mapped to RCI resources in such a way that every “a b c” command corresponds to the `/rci/a/b/c` URL.

As a result, hereby [Command Reference](#) gives you a complete picture of all RCI resources and their parameters. The words “command” and “resource” are used interchangeably in this manual.

Parameters are listed in the Arguments table of each command. They can be passed as part of the request using HTTP query: `/rci/a/b/c?parameter=value`. Unless otherwise specified for a certain command, query parameters are optional. Multiple parameters should be separated by ampersand (&) characters.

Parameters can also be passed in the POST request body, as described in [Section B.1.3 on page 678](#).

### B.1.2 Methods

Method semantics depend on the type of resource. There are three types of resources in RCI:

- Settings
- Actions
- Background processes

#### B.1.2.1 Settings

Settings are device configuration elements. You can view, modify, or delete settings using standard HTTP methods.

GET      Retrieve settings.

- POST Create or modify settings.
- DELETE Delete settings (reset to default).

### B.1.2.2 Actions

Actions are commands that do not modify settings. Actions run instantly as opposed to background processes, see also [Section B.1.2.3 on page 678](#)

- GET Mapped to POST for /rci/show. Not applicable to other actions.
- POST Execute a command and return its output.
- DELETE Not applicable.

### B.1.2.3 Background processes

Background processes are instances that can be created and polled for updates. Such processes are bound to a particular session, and cannot be accessed from anywhere else.

- GET Retrieve updates from existing process. Returns 404 if there is no such process.
- POST Create a background process.
- DELETE Terminate a background process.

## B.1.3 Data Format

HTTP POST requests must be submitted in a free-form JSON,<sup>1</sup> that is interpreted as a batch of parameters and nested settings, depending on the data type. Conversely, HTTP GET returns JSON data that was previously POSTed to the specified resource.

The primary data type is Object. This is unordered collection of key-value pairs, enclosed in curly brackets {}. Each key must be unique within an object.

Objects can be put one into another, or be combined in arrays as detailed in [Section B.1.3.2 on page 679](#) and [Section B.1.3.3 on page 679](#)

### B.1.3.1 Parameters

String, boolean and number values of an object are interpreted as parameters of the resource being addressed.

```
{  
  "parameter": value  
}
```

#### Example B.1. Set hotspot policy

Set policy “permit” for the Home network. Refer to [Section 3.47.10 on page 323](#) to see how “interface” and “access” parameters are mentioned in the Arguments table.

---

<sup>1</sup>In compliance with RFC 7159.

```
POST /rci/ip/hotspot/policy HTTP/1.1
Host: 192.168.1.1
Content-length: 48
Content-type: application/json

{
  "interface": "Home",
  "access": "permit"
}
```

### B.1.3.2 Nested resources

Object and array values of a parent object are interpreted as nested resources.

```
{
  "command": {
    "parameter": value
  }
}
```

In particular, empty object denotes a command with no parameters.

```
{
  "command": {}
}
```

Using this rule, you can address multiple resources at a time. RCI engine will process your request from top to bottom, recursing over the JSON structure. Parameters of a parent resource apply to all nested resources within the nearest surrounding scope.

#### Example B.2. Create and enable a PPP interface

Call “interface” to create a new PPPoE connection, as described in [Section 3.25 on page 136](#), and enable it with “interface up”. The “name” parameter applies to both “interface” and “up”.

```
POST /rci HTTP/1.1
Host: 192.168.1.1
Content-length: 39
Content-type: application/json

{"interface":{"name":"PPPoE1","up":{}}}
```

### B.1.3.3 Arrays

Arrays can be used to operate on a specific resource multiple times. The important thing is that arrays preserve the order of their elements, in contrast to object members.

```
{
  "command": [
    {"parameter1": value1,
     {"parameter2": value2} ]
}
```

### B.1.3.4 Response structure

The structure of POST output strictly corresponds to input. RCI reproduces input arrays and nested objects, and replaces input parameters with output data. This approach lets you locate any part of the response using a resource name.

#### Example B.3. Show version and interface Home

Run two different “show” commands in a certain order.

```
POST /rci/show HTTP/1.1
Host: 192.168.1.1
Content-length: 46
Content-type: application/json

[{"version":{}}, {"interface":{"name":"Home"}}]
```

Response is an array of two elements, in accordance with the request.

```
[
  {
    "version": {
      "release": "2.12.A.1.0-1",
      "arch": "mips",
      "ndm": {
        "exact": "0-cbf8590",
        "cdate": "15 Jan 2018"
      },
      "bsp": {
        "exact": "0-06ee10b",
        "cdate": "15 Jan 2018"
      },
      "ndw": {
        "version": "0.2.1",
        "features": "wifi_button,single_usb_port,dual_image",
        "components": "base,cloudcontrol,..."
      },
      "manufacturer": "Keenetic Ltd.",
      "vendor": "Keenetic",
      "series": "KN",
      "model": "Sprinter (KN-3710)",
      "hw_version": "10128000",
      "hw_id": "KN-3710",
      "device": "Sprinter",
      "class": "Internet Center"
    },
    "interface": {
      "id": "Bridge0",
      "index": 0,
      "type": "Bridge",
      "description": "Home network",
      "interface-name": "Home",
    }
  },
  {
    "version": {
      "release": "2.12.A.1.0-1",
      "arch": "mips",
      "ndm": {
        "exact": "0-cbf8590",
        "cdate": "15 Jan 2018"
      },
      "bsp": {
        "exact": "0-06ee10b",
        "cdate": "15 Jan 2018"
      },
      "ndw": {
        "version": "0.2.1",
        "features": "wifi_button,single_usb_port,dual_image",
        "components": "base,cloudcontrol,..."
      },
      "manufacturer": "Keenetic Ltd.",
      "vendor": "Keenetic",
      "series": "KN",
      "model": "Sprinter (KN-3710)",
      "hw_version": "10128000",
      "hw_id": "KN-3710",
      "device": "Sprinter",
      "class": "Internet Center"
    },
    "interface": {
      "id": "Bridge0",
      "index": 0,
      "type": "Bridge",
      "description": "Home network",
      "interface-name": "Home",
    }
  }
]
```



```

    "link": "up",
    "connected": "yes",
    "state": "up",
    "mtu": 1500,
    "tx-queue": 1000,
    "address": "192.168.1.1",
    "mask": "255.255.255.0",
    "uptime": 2621,
    "global": false,
    "security-level": "private",
    "mac": "50:ff:20:00:00:08",
    "auth-type": "none"
  }
}
]

```

## B.2 XML Core Interface

Warning: XML Core Interface is deprecated and is maintained for backward compatibility.

Sprinter provides an HTTP XML API. The API is implemented as /ci resource that accepts POST XML requests and returns XML after the user agent has been authenticated.

If Sprinter is reset to factory defaults, authentication is not required.

### Example B.4. XML API call

Execute the “**show interface**” command for the WAN interface named ISP. This interface exists by default in Sprinter.

```

POST /ci HTTP/1.1
Host: 192.168.1.1
Connection: keep-alive
Content-Length: 177
Origin: http://192.168.1.1
User-Agent: Mozilla/5.0 (Windows NT 6.1; WOW64)
Content-Type: application/xml
Referer: http://192.168.1.1/

<packet ref="/">
  <request id="1" ref="former.ifaces[load]">
    <command name="show interface">
      <name>ISP</name>
    </command>
  </request>
</packet>

```

The device responds with the current status of ISP:

```

HTTP/1.0 200 OK
Server: Ag [47]
Set-Cookie: _authorized=*; path=/

```

```

Content-type: text/xml
Content-Length: 760

<packet>
  <response id="1">
    <interface name="ISP">
      <mac>ec:43:f6:d3:22:d9</mac>
      <id>GigabitEthernet1</id>
      <index>2</index>
      <type>VLAN</type>
      <description>Broadband connection</description>
      <link>down</link>
      <connected>no</connected>
      <state>up</state>
      <mtu>1500</mtu>
      <tx-queue>1000</tx-queue>
      <global>yes</global>
      <defaultgw>no</defaultgw>
      <priority>700</priority>
      <security-level>public</security-level>
      <auth-type>none</auth-type>
    </interface>
    <message code="268370345" ident="Network::Interface::Base"
source="">done</message>
  </response>
</packet>

```

The `<request>` element is always sent from the user agent to the device. The device always responds with a `<response>`. The `id` attribute can be used to establish one-to-one correspondence between them.

### Figure B.1. Request Element

```

<request id="identifier">
  <!-- request content -->
</request>

```

### Figure B.2. Response Element

```

<response id="identifier">
  <!-- response content -->
</response>

```

There are two basic types of XML requests:

|                       |                                                                                                                    |
|-----------------------|--------------------------------------------------------------------------------------------------------------------|
| Command Request       | Execute a specific command on the device. Available commands are described in <a href="#">Chapter 3 on page 35</a> |
| Configuration Request | Get parameters that have been configured by a specific command.                                                    |

## B.2.1 Command Request

Command request can be used to execute a specific command on the device.

**Figure B.3. Command Request**

```
<request id="identifier">
  <command name="command">
    <no/>
    <argument>value</argument>
    ...
  </command>
</request>
```

*command* Space separated name of the command. Available commands are listed in [Chapter 3 on page 35](#).

*argument* Name of the argument. Available arguments for each command are listed in [Chapter 3 on page 35](#). Some commands do not require any arguments.

*value* Value of the argument.

*no* Optional element that is used to negate the action of the command. It has the same effect as the prefix *no*, see [Section 2.3 on page 31](#).

## B.2.2 Configuration Request

Configuration request can be used to get configured parameters. Web interface uses this kind of request to fill out the HTML forms.

**Figure B.4. Configuration Request**

```
<request id="identifier">
  <config name="command" />
</request>
```

## B.2.3 Request Packet

Multiple requests can be arranged in packets to optimize the performance.

**Figure B.5. Request Packet**

```
<packet>
  <request id="1">
    <!-- request content -->
  </request>
  <request id="2">
    <!-- request content -->
  </request>
  ...
</packet>
```

Response elements are returned as a packet. Response identifiers are used to bind response elements to requests. If there is no response, an empty `<response/>` element is returned.

**Figure B.6. Response Packet**

```
<packet>
  <response id="1">
    <!-- response content -->
  </response>
  <response id="2"/>
    <!-- no response for id=2 -->
  ...
</packet>
```

# SNMP MIB

Management Information Bases (MIBs) are read-only.

The following MIBs are supported:

## C.1 SNMPv2-MIB

OID: 1.3.6.1.2.1.1

The following data elements are supported:

- SNMPv2-MIB::sysDescr
- SNMPv2-MIB::sysUpTime
- SNMPv2-MIB::sysContact
- SNMPv2-MIB::sysName
- SNMPv2-MIB::sysLocation
- SNMPv2-MIB::sysServices

## C.2 IF-MIB

OID: 1.3.6.1.2.1.2 and 1.3.6.1.2.1.31

The following data elements are supported:

### Basical

OID: 1.3.6.1.2.1.2

- IF-MIB::ifNumber
- IF-MIB::ifIndex
- IF-MIB::ifDescr
- IF-MIB::ifType
- IF-MIB::ifMtu
- IF-MIB::ifSpeed
- IF-MIB::ifPhysAddress
- IF-MIB::ifAdminStatus

- IF-MIB::ifOperStatus
- IF-MIB::ifLastChange
- IF-MIB::ifInOctets
- IF-MIB::ifInUcastPkts
- IF-MIB::ifInDiscards
- IF-MIB::ifInErrors
- IF-MIB::ifOutOctets
- IF-MIB::ifOutUcastPkts
- IF-MIB::ifOutDiscards
- IF-MIB::ifOutErrors

**Advanced**

OID 1.3.6.1.2.1.31

- IF-MIB::ifName
- IF-MIB::ifInMulticastPkts
- IF-MIB::ifInBroadcastPkts
- IF-MIB::ifOutMulticastPkts
- IF-MIB::ifOutBroadcastPkts
- IF-MIB::ifHCInOctets
- IF-MIB::ifHCInUcastPkts
- IF-MIB::ifHCInMulticastPkts
- IF-MIB::ifHCInBroadcastPkts
- IF-MIB::ifHCOctets
- IF-MIB::ifHCOUcastPkts
- IF-MIB::ifHCOmulticastPkts
- IF-MIB::ifHCObroadcastPkts
- IF-MIB::ifLinkUpDownTrapEnable
- IF-MIB::ifHighSpeed
- IF-MIB::ifPromiscuousMode
- IF-MIB::ifConnectorPresent
- IF-MIB::ifAlias

- IF-MIB::ifCounterDiscontinuityTime

## C.3 IP-MIB

OID: 1.3.6.1.2.1.6

The following data elements are supported:

- TCP-MIB::tcpRtoAlgorithm
- TCP-MIB::tcpRtoMin
- TCP-MIB::tcpRtoMax
- TCP-MIB::tcpMaxConn
- TCP-MIB::tcpActiveOpens
- TCP-MIB::tcpPassiveOpens
- TCP-MIB::tcpAttemptFails
- TCP-MIB::tcpEstabResets
- TCP-MIB::tcpCurrEstab
- TCP-MIB::tcpInSegs
- TCP-MIB::tcpOutSegs
- TCP-MIB::tcpRetransSegs
- TCP-MIB::tcpInErrs
- TCP-MIB::tcpOutRsts

## C.4 UDP-MIB

OID: 1.3.6.1.2.1.7

The following data elements are supported:

- UDP-MIB::udpInDatagrams
- UDP-MIB::udpNoPorts
- UDP-MIB::udpInErrors
- UDP-MIB::udpOutDatagrams
- UDP-MIB::udpHCInDatagrams
- UDP-MIB::udpHCOutDatagrams

## C.5 HOST-RESOURCES-MIB

OID: 1.3.6.1.2.1.25

The following data elements are supported:

- HOST-RESOURCES-MIB::hrSystemUptime

## C.6 UCD-SNMP-MIB

OID 1.3.6.1.4.1.2021

The following data elements are supported:

- |                         |                                                                                                                                                                                                                                                                                                                            |
|-------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>RAM info</b>         | <ul style="list-style-type: none"><li>• UCD-SNMP-MIB::memTotalReal</li><li>• UCD-SNMP-MIB::memAvailReal</li><li>• UCD-SNMP-MIB::memShared</li><li>• UCD-SNMP-MIB::memBuffer</li><li>• UCD-SNMP-MIB::memCached</li></ul>                                                                                                    |
| <b>USB-storage info</b> | <ul style="list-style-type: none"><li>• UCD-SNMP-MIB::dskIndex</li><li>• UCD-SNMP-MIB::dskPath</li><li>• UCD-SNMP-MIB::dskTotal</li><li>• UCD-SNMP-MIB::dskAvail</li><li>• UCD-SNMP-MIB::dskUsed</li><li>• UCD-SNMP-MIB::dskPercent</li><li>• UCD-SNMP-MIB::dskPercentNode</li></ul>                                       |
| <b>System load info</b> | <ul style="list-style-type: none"><li>• UCD-SNMP-MIB::laIndex</li><li>• UCD-SNMP-MIB::laNames</li><li>• UCD-SNMP-MIB::laLoad</li><li>• UCD-SNMP-MIB::laConfig</li><li>• UCD-SNMP-MIB::laLoadInt</li><li>• UCD-SNMP-MIB::ssCpuRawUser</li><li>• UCD-SNMP-MIB::ssCpuRawNice</li><li>• UCD-SNMP-MIB::ssCpuRawSystem</li></ul> |



- UCD-SNMP-MIB::ssCpuRawIdle
- UCD-SNMP-MIB::ssRawInterrupts
- UCD-SNMP-MIB::ssRawContexts



# IPsec Encryption Levels

The encryption level defines a set of *IKE* and *IPsec SA* algorithms.

Below a complete list of algorithms is displayed for each level in order of decreasing priority, as well as a set of commands **crypto ike proposal** to setup this profile manually.

In the list of algorithms is indicated:

- encryption with key length
- hash function for *HMAC* forming
- *PFS* mode (NO if disabled)

## D.1 weak

| Protocol | Encryption                | Proposal               |
|----------|---------------------------|------------------------|
| IKEv1    | AES-128-CBC/SHA1/MODP1024 | encryption aes-128-cbc |
|          | AES-128-CBC/SHA1/MODP768  | encryption 3des        |
|          | AES-128-CBC/MD5/MODP1024  | encryption des         |
|          | AES-128-CBC/MD5/MODP768   | integrity sha1         |
|          | 3DES-CBC/SHA1/MODP1024    | integrity md5          |
|          | 3DES-CBC/SHA1/MODP768     | dh-group 2             |
|          | 3DES-CBC/MD5/MODP1024     | dh-group 1             |
|          | 3DES-CBC/MD5/MODP768      |                        |
|          | DES-CBC/SHA1/MODP1024     |                        |
|          | DES-CBC/SHA1/MODP768      |                        |
|          | DES-CBC/MD5/MODP1024      |                        |
|          | DES-CBC/MD5/MODP768       |                        |
| IKEv2    | AES-128-CBC/SHA1/MODP1024 | encryption aes-128-cbc |
|          | AES-128-CBC/SHA1/MODP768  | encryption 3des        |
|          | AES-128-CBC/MD5/MODP1024  | encryption des         |
|          | AES-128-CBC/MD5/MODP768   | integrity sha1         |

| Protocol | Encryption             | Proposal           |
|----------|------------------------|--------------------|
|          | 3DES-CBC/SHA1/MODP1024 | integrity md5      |
|          | 3DES-CBC/SHA1/MODP768  | dh-group 2         |
|          | 3DES-CBC/MD5/MODP1024  | dh-group 1         |
|          | 3DES-CBC/MD5/MODP768   |                    |
|          | DES-CBC/SHA1/MODP1024  |                    |
|          | DES-CBC/SHA1/MODP768   |                    |
|          | DES-CBC/MD5/MODP1024   |                    |
|          | DES-CBC/MD5/MODP768    |                    |
| IPsec SA | DES/MD5                | cypher esp-des     |
|          | AES-128-CBC/SHA1       | cypher esp-3des    |
|          | 3DES-CBC/SHA1          | cypher esp-aes-128 |
|          | DES/SHA1               | hmac esp-md5-hmac  |
|          | AES-128-CBC/MD5        | hmac esp-sha1-hmac |
|          | 3DES-CBC/MD5           |                    |

## D.2 weak-pfs

| Protocol | Encryption                | Proposal               |
|----------|---------------------------|------------------------|
| IKEv1    | AES-128-CBC/SHA1/MODP1024 | encryption aes-128-cbc |
|          | AES-128-CBC/SHA1/MODP768  | encryption 3des        |
|          | AES-128-CBC/MD5/MODP1024  | encryption des         |
|          | AES-128-CBC/MD5/MODP768   | integrity sha1         |
|          | 3DES-CBC/SHA1/MODP1024    | integrity md5          |
|          | 3DES-CBC/SHA1/MODP768     | dh-group 2             |
|          | 3DES-CBC/MD5/MODP1024     | dh-group 1             |
|          | 3DES-CBC/MD5/MODP768      |                        |
|          | DES-CBC/SHA1/MODP1024     |                        |
|          | DES-CBC/SHA1/MODP768      |                        |
|          | DES-CBC/MD5/MODP1024      |                        |
|          | DES-CBC/MD5/MODP768       |                        |
|          |                           |                        |

| Protocol | Encryption                | Proposal               |
|----------|---------------------------|------------------------|
| IKEv2    | AES-128-CBC/SHA1/MODP1024 | encryption aes-128-cbc |
|          | AES-128-CBC/SHA1/MODP768  | encryption 3des        |
|          | AES-128-CBC/MD5/MODP1024  | encryption des         |
|          | AES-128-CBC/MD5/MODP768   | integrity sha1         |
|          | 3DES-CBC/SHA1/MODP1024    | integrity md5          |
|          | 3DES-CBC/SHA1/MODP768     | dh-group 2             |
|          | 3DES-CBC/MD5/MODP1024     | dh-group 1             |
|          | 3DES-CBC/MD5/MODP768      |                        |
|          | DES-CBC/SHA1/MODP1024     |                        |
|          | DES-CBC/SHA1/MODP768      |                        |
|          | DES-CBC/MD5/MODP1024      |                        |
|          | DES-CBC/MD5/MODP768       |                        |
|          |                           |                        |
| IPsec SA | DES/MD5/MODP1024          | cypher esp-des         |
|          | AES-128-CBC/SHA1          | cypher esp-3des        |
|          | 3DES-CBC/SHA1             | cypher esp-aes-128     |
|          | DES/SHA1                  | hmac esp-md5-hmac      |
|          | AES-128-CBC/MD5           | hmac esp-sha1-hmac     |
|          | 3DES-CBC/MD5              | dh-group 2             |
|          | AES-128-CBC/SHA1/MODP1024 | dh-group 1             |
|          | 3DES-CBC/SHA1/MODP1024    |                        |
|          | DES-CBC/SHA1/MODP1024     |                        |
|          | AES-128-CBC/SHA1/MODP768  |                        |
|          | 3DES-CBC/SHA1/MODP768     |                        |
|          | DES-CBC/SHA1/MODP768      |                        |
|          | AES-128-CBC/MD5/MODP1024  |                        |
|          | 3DES-CBC/MD5/MODP1024     |                        |
|          | AES-128-CBC/MD5/MODP768   |                        |
|          | 3DES-CBC/MD5/MODP768      |                        |
|          | DES-CBC/MD5/MODP768       |                        |

## D.3 normal

| Protocol | Encryption                  | Proposal               |
|----------|-----------------------------|------------------------|
| IKEv1    | AES-256-CBC/SHA1/MODP1536   | encryption aes-256-cbc |
|          | AES-256-CBC/SHA1/ECP384     | encryption aes-128-cbc |
|          | AES-256-CBC/SHA1/MODP2048   | encryption 3des        |
|          | AES-256-CBC/SHA1/MODP1024   | integrity sha1         |
|          | AES-128-CBC/SHA1/MODP1536   | integrity sha256       |
|          | AES-128-CBC/SHA1/ECP256     | dh-group 5             |
|          | AES-128-CBC/SHA1/MODP1024   | dh-group 20            |
|          | 3DES-CBC/SHA1/MODP2048      | dh-group 14            |
|          | 3DES-CBC/SHA1/MODP1536      | dh-group 2             |
|          | 3DES-CBC/SHA1/MODP1024      | dh-group 26            |
|          | AES-256-CBC/SHA256/MODP1024 |                        |
|          | AES-128-CBC/SHA256/MODP1024 |                        |
|          | 3DES-CBC/SHA256/MODP1024    |                        |
| IKEv2    | AES-256-CBC/SHA256/MODP1024 | encryption aes-256-cbc |
|          | AES-128-CBC/SHA256/MODP1024 | encryption aes-128-cbc |
|          | 3DES-CBC/SHA256/MODP1024    | encryption 3des        |
|          | AES-256-CBC/SHA1/MODP1024   | integrity sha256       |
|          | AES-256-CBC/SHA1/ECP384     | integrity sha1         |
|          | AES-256-CBC/SHA1/MODP2048   | dh-group 2             |
|          | AES-128-CBC/SHA1/MODP1024   | dh-group 20            |
|          | AES-128-CBC/SHA1/ECP256     | dh-group 14            |
|          | AES-256-CBC/SHA256/MODP2048 | dh-group 5             |
|          | 3DES-CBC/SHA1/MODP2048      | dh-group 26            |
|          | 3DES-CBC/SHA1/MODP1536      |                        |
|          | 3DES-CBC/SHA1/MODP1024      |                        |
| IPsec SA | AES-128-CBC/SHA1            | cypher esp-aes-128     |
|          | AES-256-CBC/SHA1            | cypher esp-aes-256     |

| Protocol | Encryption         | Proposal             |
|----------|--------------------|----------------------|
|          | 3DES-CBC/SHA1      | cypher esp-3des      |
|          | AES-128-CBC/SHA256 | hmac esp-sha1-hmac   |
|          | AES-256-CBC/SHA256 | hmac esp-sha256-hmac |
|          | 3DES-CBC/SHA256    |                      |

## D.4 normal-pfs

| Protocol | Encryption                  | Proposal               |
|----------|-----------------------------|------------------------|
| IKEv1    | AES-256-CBC/SHA1/MODP1536   | encryption aes-256-cbc |
|          | AES-256-CBC/SHA1/ECP384     | encryption aes-128-cbc |
|          | AES-256-CBC/SHA1/MODP2048   | encryption 3des        |
|          | AES-256-CBC/SHA1/MODP1024   | integrity sha1         |
|          | AES-128-CBC/SHA1/MODP1536   | integrity sha256       |
|          | AES-128-CBC/SHA1/ECP256     | dh-group 5             |
|          | AES-128-CBC/SHA1/MODP1024   | dh-group 20            |
|          | 3DES-CBC/SHA1/MODP2048      | dh-group 14            |
|          | 3DES-CBC/SHA1/MODP1536      | dh-group 2             |
|          | 3DES-CBC/SHA1/MODP1024      | dh-group 26            |
|          | AES-256-CBC/SHA256/MODP1024 |                        |
|          | AES-128-CBC/SHA256/MODP1024 |                        |
|          | 3DES-CBC/SHA256/MODP1024    |                        |
|          |                             |                        |
| IKEv2    | AES-256-CBC/SHA256/MODP1024 | encryption aes-256-cbc |
|          | AES-128-CBC/SHA256/MODP1024 | encryption aes-128-cbc |
|          | 3DES-CBC/SHA256/MODP1024    | encryption 3des        |
|          | AES-256-CBC/SHA1/MODP1024   | integrity sha256       |
|          | AES-256-CBC/SHA1/ECP384     | integrity sha1         |
|          | AES-256-CBC/SHA1/MODP2048   | dh-group 2             |
|          | AES-128-CBC/SHA1/MODP1024   | dh-group 20            |
|          | AES-128-CBC/SHA1/ECP256     | dh-group 14            |
|          | AES-256-CBC/SHA256/MODP2048 | dh-group 5             |

| Protocol | Encryption                | Proposal             |
|----------|---------------------------|----------------------|
| IPsec SA | 3DES-CBC/SHA1/MODP2048    | dh-group 26          |
|          | 3DES-CBC/SHA1/MODP1536    |                      |
|          | 3DES-CBC/SHA1/MODP1024    |                      |
|          | AES-128-CBC/SHA1/MODP1024 | esp-aes-128          |
|          | AES-128-CBC/SHA1          | cypher esp-aes-256   |
|          | AES-256-CBC/SHA1          | cypher esp-3des      |
|          | 3DES-CBC/SHA1             | hmac esp-sha1-hmac   |
|          | AES-256-CBC/SHA1/MODP1536 | hmac esp-sha256-hmac |
|          | AES-128-CBC/SHA1/MODP1536 | dh-group 2           |
|          | 3DES-CBC/SHA1/MODP1536    | dh-group 14          |
|          | AES-256-CBC/SHA1/MODP1024 |                      |
|          | 3DES-CBC/SHA1/MODP1024    |                      |

## D.5 normal-3des

| Protocol | Encryption                  | Proposal               |
|----------|-----------------------------|------------------------|
| IKEv1    | AES-256-CBC/SHA1/MODP1536   | encryption aes-256-cbc |
|          | AES-256-CBC/SHA1/ECP384     | encryption aes-128-cbc |
|          | AES-256-CBC/SHA1/MODP2048   | encryption 3des        |
|          | AES-256-CBC/SHA1/MODP1024   | integrity sha1         |
|          | AES-128-CBC/SHA1/MODP1536   | integrity sha256       |
|          | AES-128-CBC/SHA1/ECP256     | dh-group 5             |
|          | AES-128-CBC/SHA1/MODP1024   | dh-group 20            |
|          | 3DES-CBC/SHA1/MODP2048      | dh-group 14            |
|          | 3DES-CBC/SHA1/MODP1536      | dh-group 2             |
|          | 3DES-CBC/SHA1/MODP1024      | dh-group 26            |
|          | AES-256-CBC/SHA256/MODP1024 |                        |
|          | AES-128-CBC/SHA256/MODP1024 |                        |
|          | 3DES-CBC/SHA256/MODP1024    |                        |
| IKEv2    | AES-256-CBC/SHA256/MODP1024 | encryption aes-256-cbc |



| Protocol | Encryption                  | Proposal               |
|----------|-----------------------------|------------------------|
|          | AES-128-CBC/SHA256/MODP1024 | encryption aes-128-cbc |
|          | 3DES-CBC/SHA256/MODP1024    | encryption 3des        |
|          | AES-256-CBC/SHA1/MODP1024   | integrity sha256       |
|          | AES-256-CBC/SHA1/ECP384     | integrity sha1         |
|          | AES-256-CBC/SHA1/MODP2048   | dh-group 2             |
|          | AES-128-CBC/SHA1/MODP1024   | dh-group 20            |
|          | AES-128-CBC/SHA1/ECP256     | dh-group 14            |
|          | AES-256-CBC/SHA256/MODP2048 | dh-group 5             |
|          | 3DES-CBC/SHA1/MODP2048      | dh-group 26            |
|          | 3DES-CBC/SHA1/MODP1536      |                        |
|          | 3DES-CBC/SHA1/MODP1024      |                        |
| IPsec SA | 3DES-CBC/SHA1               | cypher esp-3des        |
|          | AES-256-CBC/SHA1            | cypher esp-aes-256     |
|          | AES-128-CBC/SHA1            | cypher esp-aes-128     |
|          | 3DES-CBC/SHA256             | hmac esp-sha1-hmac     |
|          | AES-256-CBC/SHA256          | hmac esp-sha256-hmac   |
|          | AES-128-CBC/SHA256          |                        |

## D.6 normal-3des-pfs

| Protocol | Encryption                | Proposal               |
|----------|---------------------------|------------------------|
| IKEv1    | AES-256-CBC/SHA1/MODP1536 | encryption aes-256-cbc |
|          | AES-256-CBC/SHA1/ECP384   | encryption aes-128-cbc |
|          | AES-256-CBC/SHA1/MODP2048 | encryption 3des        |
|          | AES-256-CBC/SHA1/MODP1024 | integrity sha1         |
|          | AES-128-CBC/SHA1/MODP1536 | integrity sha256       |
|          | AES-128-CBC/SHA1/ECP256   | dh-group 5             |
|          | AES-128-CBC/SHA1/MODP1024 | dh-group 20            |
|          | 3DES-CBC/SHA1/MODP2048    | dh-group 14            |
|          | 3DES-CBC/SHA1/MODP1536    | dh-group 2             |

| Protocol | Encryption                                                                                                                                                                                                                                                                                                                                       | Proposal                                                                                                                                                                           |
|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|          | 3DES-CBC/SHA1/MODP1024<br>AES-256-CBC/SHA256/MODP1024<br>AES-128-CBC/SHA256/MODP1024<br>3DES-CBC/SHA256/MODP1024                                                                                                                                                                                                                                 | dh-group 26                                                                                                                                                                        |
| IKEv2    | AES-256-CBC/SHA256/MODP1024<br>AES-128-CBC/SHA256/MODP1024<br>3DES-CBC/SHA256/MODP1024<br>AES-256-CBC/SHA1/MODP1024<br>AES-256-CBC/SHA1/ECP384<br>AES-256-CBC/SHA1/MODP2048<br>AES-128-CBC/SHA1/MODP1024<br>AES-128-CBC/SHA1/ECP256<br>AES-256-CBC/SHA256/MODP2048<br>3DES-CBC/SHA1/MODP2048<br>3DES-CBC/SHA1/MODP1536<br>3DES-CBC/SHA1/MODP1024 | encryption aes-256-cbc<br>encryption aes-128-cbc<br>encryption 3des<br>integrity sha256<br>integrity sha1<br>dh-group 2<br>dh-group 20<br>dh-group 14<br>dh-group 5<br>dh-group 26 |
| IPsec SA | 3DES-CBC/SHA1/MODP1024<br>3DES-CBC/SHA1<br>AES-256-CBC/SHA1<br>AES-128-CBC/SHA1<br>AES-256-CBC/SHA1/MODP1536<br>AES-128-CBC/SHA1/MODP1536<br>3DES-CBC/SHA1/MODP1536<br>AES-256-CBC/SHA1/MODP1024<br>AES-128-CBC/SHA1/MODP1024                                                                                                                    | cypher esp-3des<br>cypher esp-aes-256<br>cypher esp-aes-128<br>hmac esp-sha1-hmac<br>hmac esp-sha256-hmac<br>dh-group 2<br>dh-group 14                                             |

## D.7 high

| Protocol | Encryption                  | Proposal               |
|----------|-----------------------------|------------------------|
| IKEv1    | AES-256-CBC/SHA256/MODP1024 | encryption aes-256-cbc |

| Protocol | Encryption                  | Proposal               |
|----------|-----------------------------|------------------------|
|          | AES-256-CBC/SHA256/ECP384   | encryption aes-128-cbc |
|          | AES-256-CBC/SHA256/MODP1536 | integrity sha256       |
|          | AES-256-CBC/SHA1/MODP2048   | integrity sha1         |
|          | AES-256-CBC/SHA1/ECP384     | dh-group 2             |
|          | AES-256-CBC/SHA1/MODP1536   | dh-group 20            |
|          | AES-128-CBC/SHA1/MODP2048   | dh-group 5             |
|          | AES-128-CBC/SHA1/ECP256     | dh-group 14            |
|          | AES-128-CBC/SHA1/MODP1536   | dh-group 26            |
| IKEv2    | AES-256-CBC/SHA256/MODP1024 | encryption aes-256-cbc |
|          | AES-256-CBC/SHA256/ECP384   | encryption aes-128-cbc |
|          | AES-256-CBC/SHA256/MODP1536 | integrity sha256       |
|          | AES-256-CBC/SHA1/MODP2048   | integrity sha1         |
|          | AES-256-CBC/SHA1/ECP384     | dh-group 2             |
|          | AES-256-CBC/SHA1/MODP1536   | dh-group 20            |
|          | AES-128-CBC/SHA1/MODP2048   | dh-group 5             |
|          | AES-128-CBC/SHA1/ECP256     | dh-group 14            |
| IPsec SA | AES-128-CBC/SHA1/MODP1536   | dh-group 26            |
|          | AES-256-CBC/SHA256          | cypher esp-aes-256     |
|          | AES-128-CBC/SHA256          | cypher esp-aes-128     |
|          |                             | hmac esp-hmac-sha256   |

## D.8 strong

| Protocol | Encryption                | Proposal               |
|----------|---------------------------|------------------------|
| IKEv1    | AES-256-CBC/SHA1/MODP2048 | encryption aes-256-cbc |
|          | AES-256-CBC/SHA1/ECP384   | encryption aes-128-cbc |
|          | AES-256-CBC/SHA1/MODP1536 | integrity sha1         |
|          | AES-128-CBC/SHA1/MODP2048 | dh-group 14            |
|          | AES-128-CBC/SHA1/ECP256   | dh-group 20            |
|          | AES-128-CBC/SHA1/MODP1536 | dh-group 5             |

| Protocol | Encryption                | Proposal               |
|----------|---------------------------|------------------------|
|          |                           | dh-group 26            |
| IKEv2    | AES-256-CBC/SHA1/MODP2048 | encryption aes-256-cbc |
|          | AES-256-CBC/SHA1/ECP384   | encryption aes-128-cbc |
|          | AES-256-CBC/SHA1/MODP1536 | integrity sha1         |
|          | AES-128-CBC/SHA1/MODP2048 | dh-group 14            |
|          | AES-128-CBC/SHA1/ECP256   | dh-group 20            |
|          | AES-128-CBC/SHA1/MODP1536 | dh-group 5             |
|          |                           | dh-group 26            |
| IPsec SA | AES-256-CBC/SHA1/MODP1536 | cypher esp-aes-256     |
|          | AES-256-CBC/SHA1/MODP2048 | cypher esp-aes-128     |
|          | AES-128-CBC/SHA1/MODP2048 | hmac esp-sha1-hmac     |
|          | AES-128-CBC/SHA1/MODP1536 | dh-group 5             |
|          |                           | dh-group 14            |

## D.9 strong-aead

| Protocol | Encryption                       | Proposal                  |
|----------|----------------------------------|---------------------------|
| IKEv1    | AES-256-GCM-16/PRF-SHA384/ECP384 | aead                      |
|          |                                  | encryption aes-256-gcm-16 |
|          |                                  | prf sha384                |
|          |                                  | dh-group 20               |
| IKEv2    | AES-256-GCM-16/PRF-SHA384/ECP384 | aead                      |
|          |                                  | encryption aes-256-gcm-16 |
|          |                                  | prf sha384                |
|          |                                  | dh-group 20               |
| IPsec SA | AES-256-GCM-16                   | aead                      |
|          | CHACHA20POLY1305                 | cypher aes-256-gcm-16     |

## D.10 strong-aead-pfs

| Protocol | Encryption                       | Proposal |
|----------|----------------------------------|----------|
| IKEv1    | AES-256-GCM-16/PRF-SHA384/ECP384 | aead     |

| Protocol | Encryption                                       | Proposal                                                       |
|----------|--------------------------------------------------|----------------------------------------------------------------|
|          |                                                  | encryption aes-256-gcm-16<br>prf sha384<br>dh-group 20         |
| IKEv2    | AES-256-GCM-16/PRF-SHA384/ECP384                 | aead<br>encryption aes-256-gcm-16<br>prf sha384<br>dh-group 20 |
| IPsec SA | AES-256-GCM-16/ECP384<br>CHACHA20POLY1305-ECP384 | aead<br>cypher aes-256-gcm-16<br>dh-group 20                   |

