# KEENETIC
## LITE

N300 Smart Wi-Fi Router with Power Amplifiers, Managed Switch, and Mode Selector

# Command Reference Guide

| | |
|---|---|
| Model | Keenetic Lite (KN-1310) |
| OS Version | 2.10 |
| Edition | 1.17  18.01.2018 |

# Preface

This guide contains Command-Line Interface (CLI) commands to maintain the Keenetic Lite 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 Keenetic Lite on-site. It is also intended for the operator who manages the Keenetic Lite. This manual cover high-level technical support procedures available to Root administrators and Keenetic Lite technical support personnel.

# 2 Organization

This manual covers the following topics:

Introduction to the CLI — Describes how to use the Keenetic Lite 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 Keenetic Lite device.

# 3 Document Conventions

Command descriptions use the following conventions:

| **boldface** font | Commands and keywords are in **boldface**. Must be typed exactly as shown. Bold font is used as a user input in examples. |
|---|---|
| *italic* font | Arguments for which you supply values are in *italics*. |
| [ *optional* ] | Elements in square brackets are optional. |
| ‹*required*› | Elements in angle brackets are required. |
| (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 **no** | The possibility of using **no** 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.

# Contents Overview

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Command Reference Guide — Keenetic Lite (KN-1310)

# Product Overview

## 1.1 Hardware Configuration

**CPU**              MT7628NN MIPS® 24KEc 575 MHz

**RAM**              Winbond W9751G6KB-25 64Mb DDR2

**Flash**            Winbond W25Q128JVFQ 16Mb SPI

**Ethernet**

| Ports | Chipset | Notes |
|-------|---------|-------|
| 5 | Integrated | |

| Label | Speed | Notes |
|-------|-------|-------|
| 0 | 100 Mbps | WAN port |
| 1 | 100 Mbps | |
| 2 | 100 Mbps | |
| 3 | 100 Mbps | |
| 4 | 100 Mbps | |

**Wi-Fi**

| Band | Chipset | Notes |
|------|---------|-------|
| 2.4 GHz | MediaTek MT7603 | 802.11bgn 2x2 |

**2**

# Introduction to the CLI

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

The primary tool for managing the Keenetic Lite 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.

Keenetic Lite has three types of settings:

Current settings             *running config* 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         *startup config* 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            *default config* contains factory default settings of Keenetic Lite. 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 Keenetic Lite 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 FastEthernet0/Vlan2 network interface is set using the **address** command, which is located in the **interface** → **ip** group:

```
(config)>interface FastEthernet0/Vlan2 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 FastEthernet0/Vlan2
(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 Fa[Tab]

 Usage template:
 interface {name}

 Variants:
 FastEthernet0
 FastEthernet0/Vlan1
 FastEthernet0/Vlan2

(config)> interface FastEthernet0[Tab]

 Usage template:
 interface {name}

 Variants:
 FastEthernet0/Vlan1
 FastEthernet0/Vlan2

(config)> interface FastEthernet0[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 [?]. Example:

```
(config)> interface FastEthernet0/Vlan2 [?]

    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 FastEthernet0/Vlan2
```

# 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 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 Keenetic Lite 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 | *Filename* | Full path to the file to be copied in <file system>:<path> format |
| destination | *Filename* | Full path to the directory for the new file. |

**Example**    Current settings can be saved as follows:

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

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 **copy** command has been introduced. |

### 3.1.2 erase

**Description**    Delete a file from the Keenetic Lite device.

**Prefix no**    No

**Change settings**    Yes

| **Multiple input** | Yes |
|---|---|

**Synopsis**

> (config)> **erase** ‹*filename*›

**Arguments**

| Argument | Value | Description |
|---|---|---|
| filename | *Filename* | Specifies the file to be removed. |

**Example**

```
(config)> erase FLASH:swap
Erased FLASH:swap.
```

**History**

| Version | Description |
|---|---|
| 2.00 | The **erase** 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**

```
(config-dyndns)> exit
(config)>
```

**History**

| Version | Description |
|---|---|
| 2.00 | The **exit** command has been introduced. |

## 3.1.4 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 | *String* | 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 temp:

       rel: temp:

    entry, type = R:
         name: resolv.conf
         size: 107
    entry, type = D:
         name: db
    entry, type = D:
         name: dhcp6c
    entry, type = R:
         name: TZ
         size: 6
    entry, type = R:
         name: passwd
         size: 128
    entry, type = D:
         name: dnscache
    entry, type = D:
         name: mnt
    entry, type = D:
         name: tmp
    entry, type = D:
         name: ppp
    entry, type = D:
         name: lib
    entry, type = D:
         name: run
```

**History**

| Version | Description |
|---|---|
| 2.00 | The **ls** command has been introduced. |

## 3.1.5 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 | *Filename* | Full path to the file or alias. |

**Example**

```
(config)> more temp:resolv.conf
nameserver 82.138.7.15
nameserver 82.138.7.251
nameserver 82.138.7.130
options timeout:1 attempts:3 rotate
```

**History**

| Version | Description |
|---|---|
| 2.00 | The **more** 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 | *String* | Filtering rules list name (*Access Control List*, ACL). |

**History**

| Version | Description |
|---|---|
| 2.00 | The **access-list** command has been introduced. |

## 3.2.1 access-list deny

**Description**
Add a packet filtering deny rule into a specified *ACL*.

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

**Prefix no**          Yes

**Change settings**    Yes

**Multiple input**     Yes

**Synopsis**

(config-acl)>     **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)>     **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* | *TCP* protocol. |
| udp | *Keyword* | *UDP* protocol. |
| icmp | *Keyword* | *ICMP* protocol. |
| esp | *Keyword* | *ESP* protocol. |
| gre | *Keyword* | *GRE* protocol. |
| ipip | *Keyword* | *IP in IP* protocol. |
| ip | *Keyword* | *IP* protocol (include *TCP*, *UDP*, *ICMP* 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 *source*. 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). |

| Argument | Value | Description |
|---|---|---|
| source-port | *Integer* | Source port in the *TCP* or *UDP* 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 *source-port*. |
| | eq | Operator "equal" to compare the port with the specified *source-port*. |
| | gt | Operator "greater" to compare the port with the specified *source-port*. |
| destination | *IP-address* | The destination address in the header of IP-packet. |
| destination-mask | *IP-mask* | Mask to be applied to the destination address in the header of IP-packet before comparison with *destination*. 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 | *Integer* | Destination port in the *TCP* or *UDP* header. |
| destination-end-port | *Integer* | The end of the destination range of ports. |
| dst-port-operator | lt | Operator "less" to compare the port with the specified *destination-port*. |
| | eq | Operator "equal" to compare the port with the specified *destination-port*. |
| | gt | Operator "greater" to compare the port with the specified *destination-port*. |

**Example**

```
(config-acl)> deny icmp 192.168.0.0
        255.255.255.0 192.168.1.1 255.255.255.0
ACL rule added.
```

**History**

| Version | Description |
|---|---|
| 2.00 | The **access-list deny** 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. |

## 3.2.2 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* | *TCP* protocol. |
| `udp` | *Keyword* | *UDP* protocol. |
| `icmp` | *Keyword* | *ICMP* protocol. |
| `esp` | *Keyword* | *ESP* protocol. |
| `gre` | *Keyword* | *GRE* protocol. |
| `ipip` | *Keyword* | *IP in IP* protocol. |
| `ip` | *Keyword* | *IP* protocol (include *TCP*, *UDP*, *ICMP* and other). |

| Argument | Value | Description |
|---|---|---|
| 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 *source*. 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 *TCP* or *UDP* 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 *source-port*. |
| | eq | Operator "equal" to compare the port with the specified *source-port*. |
| | gt | Operator "greater" to compare the port with the specified *source-port*. |
| destination | *IP-address* | The destination address in the header of IP-packet. |
| destination-mask | *IP-mask* | Mask to be applied to the destination address in the header of IP-packet before comparison with *destination*. 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 | *Integer* | Destination port in the *TCP* or *UDP* header. |
| destination-end-port | *Integer* | The end of the destination range of ports. |
| dst-port-operator | lt | Operator "less" to compare the port with the specified *destination-port*. |
| | eq | Operator "equal" to compare the port with the specified *destination-port*. |

| Argument | Value | Description |
|---|---|---|
| | gt | Operator "greater" to compare the port with the specified *destination-port*. |

**Example**

```
(config-acl)> permit icmp 192.168.0.0
           255.255.255.0 192.168.1.1 255.255.255.0
ACL rule added.
```

**History**

| Version | Description |
|---|---|
| 2.00 | The **access-list permit** 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. |

# 3.3 cloud control client connect

**Description**       Register new client. The maximum number of clients is 5.

Command with **no** prefix removes client.

**Prefix no**        Yes

**Change settings**  Yes

**Multiple input**   Yes

**Synopsis**

(config)>   **cloud control client** ‹*id*› **connect** ‹*name*› ‹*mag*› ‹*app*› [ ‹*modulus*› ‹*exponent*› ]

(config)> **no cloud control client** [‹*id*›] **connect**

**Arguments**

| Argument | Value | Description |
|---|---|---|
| id | *String* | 256-bit identifier of client recorded in hexadecimal format with a fixed length. |
| name | *String* | An arbitrary name, which length does not exceed 64 UTF-8 character. |
| mag | *String* | TBD |
| modulus | *Integer* | The component of the open RSA-key of client. Its size should be in the range [1024, 1536] bit. If not specified, the encryption will not be performed. |
| exponent | *Integer* | The component of the open RSA-key of client. If not specified, the encryption will not be performed. |

| Argument | Value | Description |
|---|---|---|
| app | *String* | TBD |

**Example**

```
(config)> cloud control client a78d...30ab connect test_client

  connect:
PHJlc3VsdD48Y2lkPmRhMDQ1MGNiNzhjOTNhZmMwZWZjNGNmMGIyY2MyNDE2YjF
jNDAzNTZmODRlYWNkZDE3Mzc1OWI2OWUwNTExZGY8L2NpZD48ZGV2aWNlX25hbW
U+S2VlbmV0aWMgVml2YTwvZGV2aWNlX25hbWU+PC9yZXN1bHQ+

CloudControl::Agent: Client connection initiated.
```

**History**

| Version | Description |
|---|---|
| 2.05 | The **cloud control client connect** command has been introduced. |

# 3.4 cloud control client name

**Description**      Rename the registered client.

**Prefix no**       No

**Change settings**  Yes

**Multiple input**   No

**Synopsis**      (config)>    **cloud control client** *‹id›* **name** *‹name›*

**Arguments**

| Argument | Value | Description |
|---|---|---|
| id | *String* | 256-bit identifier of client recorded in hexadecimal format with a fixed length. |
| name | *String* | An arbitrary name, which length does not exceed 64 UTF-8 character. |

**Example**

```
(config)> cloud control client a78d...30ab name "New Client"
CloudControl::Agent: A client name changed.
```

**History**

| Version | Description |
|---|---|
| 2.05 | The **cloud control client name** command has been introduced. |

# 3.5 cloud control client session timeout

| **Description** | Set timeout of the client session in seconds. |
|---|---|
| | Command with **no** prefix resets value to default (300 seconds). |
| **Prefix no** | Yes |
| **Change settings** | Yes |
| **Multiple input** | Yes |

**Synopsis**

> (config)> **cloud control client** *‹id›* **session timeout** *‹seconds›*

> (config)> **no cloud control client** [*‹id›*] **session timeout**

**Arguments**

| Argument | Value | Description |
|---|---|---|
| id | *String* | 256-bit identifier of client recorded in hexadecimal format with a fixed length. |
| seconds | *Integer* | The period of time that a session can remain idle, without any end-user interaction. Can take values in the range from 30 to 600 inclusively. |

**Example**

```
(config)> cloud control client a78d...30ab session timeout 35
CloudControl::Agent: "test_client" session timeout set to 35 ►
seconds.
```

**History**

| Version | Description |
|---|---|
| 2.05 | The **cloud control client session timeout** command has been introduced. |

# 3.6 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 **components** command has been introduced. |

## 3.6.1 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 **components commit** command has been introduced. |

## 3.6.2 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 | *String* | Component name. List of available components for installation can be displayed with the **components list** command. |

**Example**    (config-comp)> **install ntfs**
Component is queued for installation: ntfs

**History**

| Version | Description |
|---|---|
| 2.00 | The **components install** command has been introduced. |

## 3.6.3 components list

**Description**   Display the list of installed components, and components available for installation. 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 | *String* | Remote sandbox, such as stable or beta. |

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

        firmware:
            version: 2.12.A.1.0-1

          sandbox: draft

        component:
                name: storage
               group: USB storage
              libndm: Swap
            priority: normal
              depend: usb
                size: 363447
               order: 0
             version: 3.4.113-1
                hash: 2db7d67820f1598186dd939ff08a6531
           installed: 3.4.113-1

              preset: minimal
              preset: recommended
              queued: yes
        ...
```

**History**

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

## 3.6.4 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 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 ?** 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 recommended
lib::libndmComponents error[268369922]: updates are available ▶
for this system.
(config-comp)> commit
Core::System::UConfig: done.
```

**History**

| Version | Description |
|---------|-------------|
| 2.00 | The **components preset** command has been introduced. |

## 3.6.5 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 **components preview** command has been introduced. |

# 3.6.6 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 | *String* | Component name. List of available components for removal can be displayed with the **components list** command. |

**Example**          (config-comp)> **remove ntfs**
Component is queued for removal: ntfs

**History**

| Version | Description |
|---------|-------------|
| 2.00 | The **components remove** command has been introduced. |

# 3.6.7 components validity-period

**Description**      Set a validity period of a local component list. After this time the command **components list** will be automalically executed to get actual list of components from update server.

Command with **no** prefix resets period to default. By default, value 1800 is used.

**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 | *Integer* | Validity period of a local component list in seconds. |

**Example**

```
(config-comp)> validity-period 500
Core::Configurator: done.
```

**History**

| Version | Description |
|---|---|
| 2.03 | The **components validity-period** command has been introduced. |

# 3.7 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 | *String* | Name of the key. Latin letters, numbers, dots, hyphens and underscores are acceptable. |
| psk | *String* | Password for authentication. |
| 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 | *String* | Value of the remote side ID. |
| any | *Keyword* | Allow the key usage for any remote side. |

| Example | `(config)>` **`crypto ike key test 12345678 email ipsec@example.org`**<br>`IpSec::Manager: Crypto ike key "test" successfully added.` |
|---|---|

**History**

| Version | Description |
|---|---|
| 2.06 | The **crypto ike key** 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, `90` 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 | *Integer* | Timeout between keepalive packets in seconds. Can take values from 5 to 3600 inclusively. |

| Example | `(config)>` **`crypto ike nat-keepalive 20`**<br>`IpSec::Manager: Set crypto ike nat-keepalive timeout to 20 s.` |
|---|---|

**History**

| Version | Description |
|---|---|
| 2.06 | The **crypto ike nat-keepalive** 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 | *String* | *IKE* policy name. Latin letters, numbers, dots, hyphens and underscores are acceptable. |

**Example**

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

**History**

| Version | Description |
|---|---|
| 2.06 | The **crypto ike policy** 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 | *Integer* | Lifetime of *IPsec IKE* association in seconds. Can take values from 60 to 2147483647. |

**Example**

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

**History**

| Version | Description |
|---|---|
| 2.06 | The **crypto ike policy lifetime** command has been introduced. |

# 3.9.2 crypto ike policy mode

| | |
|---|---|
| **Description** | Set *IKE* protocol version. By default, the value `ikev1` is used.<br><br>Command with **no** prefix resets setting to default. |
| **Prefix no** | Yes |
| **Change settings** | Yes |
| **Multiple input** | No |
| **Synopsis** | (config-ike-policy)>    **mode** *‹mode›*<br><br>(config-ike-policy)> **no mode** |

**Arguments**

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

**Example**

```
(config-ike-policy)> mode ikev1
IpSec::Manager: Crypto ike policy "test" mode set to "ikev1".
```

**History**

| Version | Description |
|---|---|
| 2.06 | The **crypto ike policy mode** 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.<br><br>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›*<br><br>(config-ike-policy)> **no negotiation-mode** |

**Arguments**

| Argument | Value | Description |
|---|---|---|
| negotiation-mode | main | Main mode, protects the identity of the peers. |

| Argument | Value | Description |
|---|---|---|
| | `aggressive` | Aggressive mode, does not protect the identity of the peers. |

**Example**

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

**History**

| Version | Description |
|---|---|
| 2.06 | The **crypto ike policy negotiation-mode** 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 | *String* | *IKE* proposal name. Latin letters, numbers, dots, hyphens and underscores are acceptable. |

**Example**

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

**History**

| Version | Description |
|---|---|
| 2.06 | The **crypto ike policy proposal** 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. |
| | 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 | *String* | *IKE* proposal name. Latin letters, numbers, dots, hyphens and underscores are acceptable. |

**Example**

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

**History**

| Version | Description |
|---|---|
| 2.06 | The **crypto ike proposal** command has been introduced. |

# 3.10.1 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 | *DH* group to work in the *PFS* mode. |
| | 2 | |
| | 5 | |
| | 14 | |
| | 15 | |
| | 16 | |
| | 17 | |
| | 18 | |

**Example**

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

**History**

| Version | Description |
|---------|-------------|
| 2.06 | The **crypto ike proposal dh-group** command has been introduced. |

## 3.10.2 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 *IKE* encryption. |
| | 3des | |
| | aes-128-cbc | |
| | aes-192-cbc | |
| | aes-256-cbc | |

**Example**

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

**History**

| Version | Description |
|---------|-------------|
| 2.06 | The **crypto ike proposal encryption** command has been introduced. |

# 3.10.3 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 | *HMAC* signature algorithm of *IKE* messages. |
| | sha1 | |
| | sha256 | |
| | sha384 | |
| | sha512 | |

**Example**

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

**History**

| Version | Description |
|---------|-------------|
| 2.06 | The **crypto ike proposal integrity** command has been introduced. |

# 3.11 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**    (config)>    `crypto ipsec transform-set ‹name›`

(config)> `no crypto ipsec transform-set ‹name›`

**Arguments**

| Argument | Value | Description |
|---|---|---|
| name | *String* | *IPsec* transformation name. Latin letters, numbers, dots, hyphens and underscores are acceptable. |

**Example**
```
(config)> crypto ipsec transform-set test
IpSec::Manager: Crypto ipsec transform-set "test" successfully ▶
created.
```

**History**

| Version | Description |
|---|---|
| 2.06 | The **crypto ipsec transform-set** command has been introduced. |

# 3.11.1 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 *IPsec ESP* encryption. |
| | esp-3des | |
| | esp-aes-128 | |
| | esp-aes-192 | |
| | esp-aes-256 | |

**Example**

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

**History**

| Version | Description |
|---------|-------------|
| 2.06 | The **crypto ipsec transform-set cypher** command has been introduced. |

# 3.11.2 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 | *DH* group to work in the *PFS* mode. |
| | 2 | |
| | 5 | |
| | 14 | |
| | 15 | |
| | 16 | |
| | 17 | |

| Argument | Value | Description |
|---|---|---|
|  | 18 |  |

**Example**

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

**History**

| Version | Description |
|---|---|
| 2.06 | The **crypto ipsec transform-set dh-group** command has been introduced. |

# 3.11.3 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 | *HMAC* signature algorithm of *IPsec ESP* transformation. |
|  | esp-sha1-hmac |  |
|  | esp-sha256-hmac |  |

**Example**

```
(config-ipsec-transform)> hmac esp-sha1-hmac
IpSec::Manager: Crypto ipsec transform-set "test" hmac ►
"esp-sha1-hmac" successfully added.
```

**History**

| Version | Description |
|---|---|
| 2.06 | The **crypto ipsec transform-set hmac** command has been introduced. |

## 3.11.4 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 | *Integer* | Lifetime of *IPsec* transformation in seconds. Can take values from 60 to 2147483647. |

**Example**

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

**History**

| Version | Description |
|---|---|
| 2.06 | The **crypto ipsec transform-set lifetime** 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 | *String* | [IPsec](#) profile name. Latin letters, numbers, dots, hyphens and underscores are acceptable. |

**Example**

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

**History**

| Version | Description |
|---------|-------------|
| 2.06 | The **crypto ipsec profile** 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: Crypto ipsec profile "test" authentication-local ▶
type "pre-share" is set.
```

**History**

| Version | Description |
|---------|-------------|
| 2.06 | The **crypto ipsec profile authentication-local** 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: Crypto ipsec profile "test" authentication-remote ►
type "pre-share" is set.
```

**History**

| Version | Description |
|---|---|
| 2.06 | The **crypto ipsec profile authentication-remote** command has been introduced. |

# 3.12.3 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 | *Integer* | The interval of sending *DPD* packets in seconds. Can take values from 2 to 3600. |

| Argument | Value | Description |
|---|---|---|
| retry-count | *Integer* | Number of attempts to send *DPD* packets. Can take values from 3 to 60. |

**Example**

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

**History**

| Version | Description |
|---|---|
| 2.06 | The **crypto ipsec profile dpd-interval** command has been introduced. |

# 3.12.4 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 | *String* | Local ID value. |

**Example**

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

**History**

| Version | Description |
|---------|-------------|
| 2.06 | The **crypto ipsec profile identity-local** command has been introduced. |

# 3.12.5 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 | *String* | Remote host ID value. |
| any | *Keyword* | Allow usage of any remote host. |

**Example**
```
(config-ipsec-profile)> match-identity-remote any
IpSec::Manager: Crypto ipsec profile "test" match-identity-remote ▶
is set to any.
```

**History**

| Version | Description |
|---------|-------------|
| 2.06 | The **crypto ipsec profile match-identity-remote** command has been introduced. |

# 3.12.6 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 tunnel
IpSec::Manager: Crypto ipsec profile "test" mode set to "tunnel".
```

**History**

| Version | Description |
|---|---|
| 2.06 | The **crypto ipsec profile mode** command has been introduced. |

## 3.12.7 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 | *String* | *IKE* policy name. You can see the list of available policies with help of **policy ?** command. |

**Example**

```
(config-ipsec-profile)> policy test
IpSec::Manager: Crypto ipsec profile "test" policy set to "test".
```

**History**

| Version | Description |
|---------|-------------|
| 2.06 | The **crypto ipsec profile policy** command has been introduced. |

# 3.12.8 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 | *String* | Pre-shared key value. |

**Example**        (config-ipsec-profile)> **preshared-key testkey**
IpSec::Manager: Crypto ipsec profile "test" preshared key was set.

**History**

| Version | Description |
|---------|-------------|
| 2.06 | The **crypto ipsec profile preshared-key** command has been introduced. |

# 3.12.9 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: Crypto ipsec profile "test" xauth set to "client".
```

**History**

| Version | Description |
|---------|-------------|
| 2.06 | The **crypto ipsec profile xauth** command has been introduced. |

## 3.12.10 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 | *String* | Login for *XAuth* client mode. |

**Example**

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

**History**

| Version | Description |
|---------|-------------|
| 2.06 | The **crypto ipsec profile xauth-identity** command has been introduced. |

## 3.12.11 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 | *String* | Password for *XAuth* client mode. |

**Example**

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

**History**

| Version | Description |
| --- | --- |
| 2.06 | The **crypto ipsec profile xauth-password** command has been introduced. |

# 3.13 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 | *String* | *IPsec* crypto map name. Latin letters, numbers, dots, hyphens and underscores are acceptable. |

**Example**

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

| History | Version | Description |
|---|---|---|
| | 2.06 | The **crypto map** command has been introduced. |

## 3.13.1 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: Crypto map "test" autoconnect enabled.
```

| History | Version | Description |
|---|---|---|
| | 2.06 | The **crypto map connect** command has been introduced. |

## 3.13.2 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: Crypto map "test" enabled.
```

**History**

| Version | Description |
|---------|-------------|
| 2.06 | The **crypto map enable** command has been introduced. |

# 3.13.3 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 | *Integer* | Period of checking in seconds. Can take values from 60 to 86400. |

**Example**

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

**History**

| Version | Description |
|---------|-------------|
| 2.06 | The **crypto map fallback-check-interval** command has been introduced. |

# 3.13.4 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 **crypto map force-encaps** command has been introduced. |

# 3.13.5 crypto map match-address

**Description**    Set the reference to existing list of packet filtering rules (see **access-list** command). The first rule in the list will be used for *IPsec* Phase 2.

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

**Prefix no**    Yes

**Change settings**    Yes

**Multiple input**    No

**Synopsis**

| (config-crypto-map)>    **match-address** ‹*access-list*›

| (config-crypto-map)> **no match-address**

**Arguments**

| Argument | Value | Description |
|----------|-------|-------------|
| access-list | *String* | Packet filtering rules list name. You can see the list of available lists with help of **match-address ?** command. |

**Example**

```
(config-crypto-map)> match-address acl1
IpSec::Manager: Crypto map "test" match-address set to "acl1".
```

**History**

| Version | Description |
|---------|-------------|
| 2.06 | The **crypto map match-address** command has been introduced. |

# 3.13.6 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: Crypto map "test" SA renegotiation enabled.
```

**History**

| Version | Description |
|---|---|
| 2.06 | The **crypto map nail-up** command has been introduced. |

## 3.13.7 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 | *String* | IP-address or domain name of remote host. |
| | any | Accept any incoming connections. |

**Example**

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

**History**

| Version | Description |
|---|---|
| 2.06 | The **crypto map set-peer** command has been introduced. |

## 3.13.8 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 | *String* | IP-address or domain name of remote host. |

**Example**

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

**History**

| Version | Description |
|---|---|
| 2.06 | The **crypto map set-peer-fallback** command has been introduced. |

## 3.13.9 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 | *String* | *IPsec* profile name. You can see the list of available profiles with help of **set-profile ?** command. |

**Example**

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

**History**

| Version | Description |
|---|---|
| 2.06 | The **crypto map set-profile** command has been introduced. |

## 3.13.10 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 identifiy *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 | *Integer* | *MSS* upper limit. Can take values from 576 to 1500. |
| | pmtu | Enable Path MTU Discovery mode. |

**Example**

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

**History**

| Version | Description |
|---|---|
| 2.06 | The **crypto map set-tcpmss** command has been introduced. |

## 3.13.11 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* | *IPsec* transformation name. You can see the list of available transformations with help of **transform-set ?** command. |

**Example**
```
(config-crypto-map)> set-transform test
IpSec::Manager: Crypto map "test" ipsec transform-set is set to ▶
"test".
```

**History**

| Version | Description |
|---|---|
| 2.06 | The **crypto map set-transform** command has been introduced. |

## 3.13.12 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 | *IP-address* | IP-address of *DNS*-server. |

**Example**

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

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

**History**

| Version | Description |
|---|---|
| 2.08 | The **crypto map virtual-ip dns-server** command has been introduced. |

## 3.13.13 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: crypto map "test" Virtual IP mode enabled.
```

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

**History**

| Version | Description |
|---|---|
| 2.08 | The **crypto map virtual-ip enable** command has been introduced. |

## 3.13.14 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: crypto map "test" Virtual IP NAT rule enabled.
```

```
(config-crypto-map)> no virtual-ip nat
IpSec::Manager: Crypto map "test" Virtual IP NAT rule disabled.
```

**History**

| Version | Description |
|---|---|
| 2.08 | The **crypto map virtual-ip nat** command has been introduced. |

# 3.13.15 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 | *IP-address* | The beginning of the address range. |
| end | *IP-address* | The end of the address range. |
| size | *Integer* | Address range size. |

**Example**

```
(config-crypto-map)> virtual-ip range 10.5.0.0 20
IpSec::Manager: Crypto map "test" Virtual IP pool range set from ►
"10.5.0.0" to "10.5.0.20".
```

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

| | Version | Description |
|---|---|---|
| **History** | 2.08 | The **crypto map virtual-ip range** command has been introduced. |

# 3.14 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** |

| | Version | Description |
|---|---|---|
| **History** | 2.04 | The **dns-proxy** command has been introduced. |

## 3.14.1 dns-proxy bantime

| | |
|---|---|
| **Description** | Set bantime for DNS server. By default, 30000 value is used.<br><br>Command with **no** prefix resets bantime to default. |
| **Prefix no** | Yes |
| **Change settings** | Yes |
| **Multiple input** | No |
| **Synopsis** | (config-dnspx)>   **bantime** ‹*bantime*›<br><br>(config-dnspx)> **no bantime** |

| | Argument | Value | Description |
|---|---|---|---|
| **Arguments** | bantime | *Integer* | The bantime value in milliseconds. Can take values from 1 to 30000. |

**Example**

```
(config-dnspx)>bantime 25
Dns::Proxy: Dns-proxy set 25 msec. bantime.
(config-dnspx)>no bantime
Dns::Proxy: Dns-proxy bantime reset.
```

**History**

| Version | Description |
|---------|-------------|
| 2.04 | The **dns-proxy bantime** command has been introduced. |

## 3.14.2 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-dnspx)>  **max-ttl** ‹*max-ttl*›

> (config-dnspx)> **no max-ttl**

**Arguments**

| Argument | Value | Description |
|----------|-------|-------------|
| max-ttl | *Integer* | The maximum value of TTL. Can take values from 1 to 604800000 milliseconds (1 week). |

**Example**

```
(config-dnspx)>max-ttl 10000
Dns::Proxy: Dns-proxy set max-ttl to 10000.
(config-dnspx)>no max-ttl
Dns::Proxy: Dns-proxy max-ttl cleared.
```

**History**

| Version | Description |
|---------|-------------|
| 2.05 | The **dns-proxy max-ttl** command has been introduced. |

## 3.14.3 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-dnspx)>  **proceed** ‹*proceed*›

(config-dnspx)> **no proceed**

| | **Argument** | **Value** | **Description** |
|---|---|---|---|
| **Arguments** | proceed | *Integer* | The value of DNS proxy proceed in milliseconds. Can take values from 1 to 50000. |

**Example**

```
(config-dnspx)>proceed 600
Dns::Proxy: Dns-proxy set 600 msec. proceed.
(config-dnspx)>no proceed
Dns::Proxy: Dns-proxy proceed timeout reset.
```

| | **Version** | **Description** |
|---|---|---|
| **History** | 2.04 | The **dns-proxy proceed** command has been introduced. |

## 3.14.4 dns-proxy threshold

**Description**      Set number of consequent failed requests to ban DNS server. By default, 3 value is used.

All DNS servers can not be banned.

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

**Prefix no**      Yes

**Change settings**      Yes

**Multiple input**      No

**Synopsis**      (config-dnspx)>   **threshold** ‹*threshold*›

(config-dnspx)> **no threshold**

| | **Argument** | **Value** | **Description** |
|---|---|---|---|
| **Arguments** | threshold | *Integer* | The value of DNS proxy threshold. Can take values from 1 to 10. |

**Example**

```
(config-dnspx)>threshold 5
Dns::Proxy: Dns-proxy set 5 threshold.
(config-dnspx)>no threshold
Dns::Proxy: Dns-proxy threshold cleared.
```

| | **Version** | **Description** |
|---|---|---|
| **History** | 2.04 | The **dns-proxy threshold** command has been introduced. |

# 3.15 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 | *String* | The profile name. Maximum name length is 64 characters. |

**History**

| Version | Description |
|---------|-------------|
| 2.00 | The **dyndns profile** command has been introduced. |

# 3.15.1 dyndns profile domain

**Description**  Assign permanent domain name to the computer. You need to register this domain name on the site dyndns.com[1] or no-ip.com[2] before execution.

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

**Prefix no**  Yes

**Change settings**  Yes

**Multiple input**  No

**Synopsis**

> (config-dyndns)>  **domain** ‹*name*›

> (config-dyndns)> **no domain**

**Arguments**

| Argument | Value | Description |
|----------|-------|-------------|
| domain | *String* | The domain name. Maximum domain name length is 254 characters. |

---

[1] http:\\www.dyndns.com
[2] http:\\www.no-ip.com

**Example**

```
(config-dyndns)> domain systems
DynDns::Profile: "test": domain saved.
```

**History**

| Version | Description |
|---------|-------------|
| 2.00 | The **dyndns profile domain** command has been introduced. |

## 3.15.2 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**

**Arguments**

| Argument | Value | Description |
|----------|-------|-------------|
| password | *String* | The password for authentication. Maximum password length is 64 characters. |

**Example**

```
(config-dyndns)> password 1234
DynDns::Profile: "test": password saved.
```

**History**

| Version | Description |
|---------|-------------|
| 2.00 | The **dyndns profile password** command has been introduced. |

## 3.15.3 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: a send address enabled.
```

**History**

| Version | Description |
|---------|-------------|
| 2.03 | The **dyndns profile send-address** command has been introduced. |

# 3.15.4 dyndns profile type

**Description**      Set DynDns type depending on the site where the domain name was registered.

**Prefix no**         Yes

**Change settings**   Yes

**Multiple input**    No

**Synopsis**          (config-dyndns)>   **type** ‹*type*›

(config-dyndns)> **no type**

**Arguments**

| Argument | Value | Description |
|----------|-------|-------------|
| type | dyndns | Used if the domain name was registered on the dyndns.com[3] site. |
| | noip | Used if the domain name was registered on the no-ip.com[4] site. |
| | rucenter | Used if the domain name was registered on the rucenter[5] site. |
| | custom | Used if the domain name was registered on the other site (defined with dyndns profile url command). |

**Example**

```
(config-dyndns)> type dyndns
DynDns::Profile: "test": type saved.
```

**History**

| Version | Description |
|---------|-------------|
| 2.00 | The **dyndns profile type** command has been introduced. |

---

[3] http:\\www.dyndns.com
[4] http:\\www.no-ip.com
[5] http:\\www.dns-master.ru

# 3.15.5 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 | *Integer* | Interval time in days. |
| hours | *Integer* | Interval time in hours. |
| minutes | *Integer* | Interval time in minutes. |
| seconds | *Integer* | Interval time in seconds. |

**Example**

```
(config-dyndns)> update-interval 7 days
DynDns::Profile: a timeout set to 604800.
```

**History**

| Version | Description |
|---|---|
| 2.03 | The **dyndns profile update-interval** command has been introduced. |

# 3.15.6 dyndns profile url

| | |
|---|---|
| **Description** | Set dynamic DNS service custom URL. |
| **Prefix no** | Yes |
| **Change settings** | Yes |
| **Multiple input** | Yes |

**Synopsis**

> (config-dyndns)> **url** ‹*url*›

> (config-dyndns)> **no url**

**Arguments**

| Argument | Value | Description |
|---|---|---|
| url | *String* | Custom URL of DNS service. |

---

| Example | (config-dyndns)> **url http://members.dyndns.org/nic/update**<br>DynDns::Profile: "test": url saved. |
|---|---|

| History | Version | Description |
|---|---|---|
| | 2.05 | The **dyndns profile url** command has been introduced. |

## 3.15.7 dyndns profile username

**Description**    Set username for access via DynDns.

**Prefix no**    Yes

**Change settings**    Yes

**Multiple input**    Yes

**Synopsis**    (config-dyndns)>    **username** ‹*username*›

(config-dyndns)> **no username**

| Arguments | Argument | Value | Description |
|---|---|---|---|
| | username | *String* | Username for authentication. Maximum name length is 64 characters. |

| Example | (config-dyndns)> **username test_user**<br>DynDns::Profile: "test": username saved. |
|---|---|

| History | Version | Description |
|---|---|---|
| | 2.00 | The **dyndns profile username** command has been introduced. |

## 3.16 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 | *Interface name* | Full interface name or an alias. You can see the list of available interfaces with help of **interface ?** command. |

**History**

| Version | Description |
| --- | --- |
| 2.00 | The **interface** command has been introduced. |

## 3.16.1 interface authentication chap

**Description**      Enable *CHAP* authentication support.

Command with **no** prefix disables *CHAP*.

**Prefix no**        Yes

**Change settings**  Yes

**Multiple input**   No

**Interface type**   Secure

| Synopsis | (config-if)> **authentication chap** |
| --- | --- |
| | (config-if)> **no authentication chap** |

**Example**

```
(config-if)> authentication chap
CHAP authentication enabled.
```

**History**

| Version | Description |
| --- | --- |
| 2.00 | The **interface authentication chap** command has been introduced. |

## 3.16.2 interface authentication eap-md5

**Description**      Enable EAP-MD5 authentication support.

Command with **no** prefix disables EAP-MD5.

**Prefix no**        Yes

| Change settings | Yes |
|---|---|
| **Multiple input** | No |
| **Interface type** | Secure |

| Synopsis | (config-if)> **authentication eap-md5** |
|---|---|
| | (config-if)> **no authentication eap-md5** |

| **Example** | (config-if)> **authentication eap-md5**<br>EAP-MD5 authentication enabled. |
|---|---|

| **History** | Version | Description |
|---|---|---|
| | 2.00 | The **interface authentication eap-md5** command has been introduced. |

## 3.16.3 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**<br>EAP-TTLS authentication enabled. |
|---|---|

| **History** | Version | Description |
|---|---|---|
| | 2.00 | The **interface authentication eap-ttls** command has been introduced. |

## 3.16.4 interface authentication identity

| **Description** | Specify user name for device authentication on the remote system. Equally often used on PPTP, PPPoE and L2TP 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 | *String* | User name for authentication. |

**Example**

```
(config-if)> authentication identity test
Identity saved.
```

**History**

| Version | Description |
|---|---|
| 2.00 | The **interface authentication identity** command has been introduced. |

## 3.16.5 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
MSCHAP authentication enabled.
```

**History**

| Version | Description |
|---|---|
| 2.00 | The **interface authentication mschap** command has been introduced. |

# 3.16.6 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**
MSCHAPv2 authentication enabled.

**History**

| Version | Description |
|---------|-------------|
| 2.00 | The **interface authentication mschap-v2** command has been introduced. |

# 3.16.7 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**
PAP authentication enabled.

**History**

| Version | Description |
|---------|-------------|
| 2.00 | The **interface authentication pap** command has been introduced. |

# 3.16.8 interface authentication password

| | |
|---|---|
| **Description** | Specify password for device authentication on the remote system. Equally often used on PPTP, PPPoE and L2TP connections.<br><br>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 | *String* | Password for authentication. |

**Example**

```
(config-if)> authentication password 1234
Password saved.
```

**History**

| Version | Description |
|---|---|
| 2.00 | The **interface authentication password** command has been introduced. |

# 3.16.9 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.<br><br>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`**<br>`Shared authentication enabled.` |
|---|---|

**History**

| Version | Description |
|---|---|
| 2.00 | The **interface authentication shared** command has been introduced. |

## 3.16.10 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 | *String* | 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 12345678`**<br>`Pre-shared key saved.`

**History**

| Version | Description |
|---|---|
| 2.00 | The **interface authentication wpa-psk** command has been introduced. |

## 3.16.11 interface bandwidth-limit

**Description**  Set tariff speed of Internet connection for the interface. It is used to determine the bandwidth usage in the traffic analysis (see **service ntce** command).

Command with **no** prefix removes setting.

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

**Synopsis**

> (config-if)>   **bandwidth-limit** *‹limit›*

> (config-if)> **no bandwidth-limit**

**Arguments**

| Argument | Value | Description |
|---|---|---|
| limit | *Integer* | The value of the tariff speed in Kbps. |

**Example**

```
(config-if)> bandwidth-limit 50000
Ntce::BandwidthLimits: Set bandwidth limit 50000 Kbps to ISP.
```

**History**

| Version | Description |
|---|---|
| 2.06 | The **interface bandwidth-limit** command has been introduced. |

## 3.16.12 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.
```

**History**

| Version | Description |
|---|---|
| 2.00 | The **interface ccp** command has been introduced. |

## 3.16.13 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). 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. |
| | auto | Radio channel number is detected automatically. |

**Example**

```
(config-if)> channel 8
Channel saved.
```

**History**

| Version | Description |
|---|---|
| 2.00 | The **interface channel** command has been introduced. |

## 3.16.14 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 | 6 | Rescan interval in hours. |
| | 12 | |
| | 24 | |

**Example**

```
(config-if)> channel auto-rescan 03:00 interval 12
Network::Interface::Rtx::WifiMaster: Scheduled auto rescan, ►
interval 12 hours.
```

**History**

| Version | Description |
|---------|-------------|
| 2.07 | The **interface channel auto-rescan** command has been introduced. |

## 3.16.15 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: a channel bandwidth setting ►
applied.
```

**History**

| Version | Description |
|---------|-------------|
| 2.04 | The **interface channel width** command has been introduced. |

# 3.16.16 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 B, G, N, that denote extentions to the standard IEEE 802.11. For example, the presence 'N' in the compability 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.

**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. |

**Example**

```
(config-if)> compatibility GN
Compatibility set.
```

**History**

| Version | Description |
|---------|-------------|
| 2.00 | The **interface compatibility** command has been introduced. |

# 3.16.17 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** ‹*interface*› ] |

| (config-if)> **no connect** |

**Arguments**

| Argument | Value | Description |
|---|---|---|
| via | *Interface name* | Interface through which remote node is accessed. For PPPoE this option is mandatory. |

**Example**

```
(config-if)> connect via UsbModem3
PPP connection enabled.
```

**History**

| Version | Description |
|---|---|
| 2.00 | The **interface connect** command has been introduced. |

# 3.16.18 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 | *String* | The country code. |

**Example**

```
(config-if)> country-code RU
Country code set.
```

**History**

| Version | Description |
|---|---|
| 2.00 | The **interface country-code** command has been introduced. |

## 3.16.19 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**
Debug enabled.

**History**

| Version | Description |
|---|---|
| 2.00 | The **interface debug** command has been introduced. |

## 3.16.20 interface description

**Description**    Assign arbitrary descrption 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 | *String* | Arbitrary description of the interface. |

**Example**    (config-if)> **description 111_2222_33333**
Interface description saved.

| | Version | Description |
|---|---------|-------------|
| **History** | 2.00 | The **interface description** command has been introduced. |

# 3.16.21 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
Interface disabled.
```

| | Version | Description |
|---|---------|-------------|
| **History** | 2.00 | The **interface down** command has been introduced. |

# 3.16.22 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** ‹mode›

> (config-if)> **no duplex**

**Arguments**

| Argument | Value | Description |
|----------|-------|-------------|
| mode | full | Full duplex mode. |

---

| Argument | Value | Description |
|---|---|---|
| | half | Half duplex mode. |
| | auto | Auto duplex mode. |

**Example**

```
(config-if)> duplex full
Network::Interface::Ethernet: Duplex set to "full".
```

**History**

| Version | Description |
|---|---|
| 2.06.B.1 | The **interface duplex** command has been introduced. |

## 3.16.23 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 | *String* | The name of DynDns profile. |

**Example**

```
(config-if)> dyndns profile test
Core::Configurator: done.
```

**History**

| Version | Description |
|---|---|
| 2.02 | The **interface dyndns profile** command has been introduced. |

## 3.16.24 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 | *Keyword* | Not take into account the update rate recommended by service provider. |

**Example**

```
(config-if)> dyndns update
DynDns::Profile: "test" update started.
```

**History**

| Version | Description |
|---|---|
| 2.00 | The **interface dyndns update** command has been introduced. |

## 3.16.25 interface encryption disable

| | |
|---|---|
| **Description** | Disable encryption on the wireless interface. |
| **Prefix no** | No |
| **Change settings** | Yes |
| **Multiple input** | No |
| **Interface type** | WiFi |

**Synopsis**

> (config-if)>　**encryption disable**

**Example**

```
(config-if)> encryption disable
wireless encryption disabled
```

**History**

| Version | Description |
|---|---|
| 2.00 | The **interface encryption disable** command has been introduced. |

## 3.16.26 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**<br>wireless encryption enabled |

| | |
|---|---|
| **History** | |

| Version | Description |
|---|---|
| 2.00 | The **interface encryption enable** command has been introduced. |

## 3.16.27 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 | *Integer* | The key number. Overall, up to 4 keys could be specified. |
| value | *String* | The key value as a hexadecimal number, consisting of 10 or 26 digits. |
| default | *Keyword* | Indicates that this key will be used by default. |

| **Example** | `(config-if)> encryption key 1 1231231234`<br>`Encryption key saved.` |
| --- | --- |

**History**

| Version | Description |
| --- | --- |
| 2.00 | The **interface encryption key** command has been introduced. |

# 3.16.28 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`<br>`MPPE enabled.` |
| --- | --- |

**History**

| Version | Description |
| --- | --- |
| 2.00 | The **interface encryption mppe** command has been introduced. |

# 3.16.29 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 **interface encryption wpa** command has been introduced. |

## 3.16.30 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 **interface encryption wpa2** command has been introduced. |

## 3.16.31 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 | *Keyword* | 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 **interface flowcontrol** command has been introduced. |

# 3.16.32 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
SSID broadcasting disabled.
```

| History | Version | Description |
|---|---|---|
| | 2.00 | The **interface hide-ssid** command has been introduced. |

## 3.16.33 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**
added downstream interface ISP.

| History | Version | Description |
|---|---|---|
| | 2.00 | The **interface igmp downstream** command has been introduced. |

## 3.16.34 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

**Interface type**      IP

**Synopsis**
> (config-if)>    **igmp fork**

> (config-if)> **no igmp fork**

| Example | ```
(config-if)> igmp fork
fork role assigned to ISP.
``` |

**History**

| Version | Description |
|---------|-------------|
| 2.00 | The **interface igmp fork** command has been introduced. |

# 3.16.35 interface igmp upstream

**Description**
Enable *IGMP* mode on the interface in the direction of the multicast source. **service igmp-proxy** must be enabled on the device. Only one upstream interface is allowed.

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

**Prefix no**          Yes

**Change settings**    Yes

**Multiple input**     No

**Interface type**     IP

**Synopsis**
> (config-if)>    **igmp upstream**

> (config-if)> **no igmp upstream**

| Example | ```
(config-if)> igmp upstream
upstream role assigned to ISP.
``` |

**History**

| Version | Description |
|---------|-------------|
| 2.00 | The **interface igmp upstream** command has been introduced. |

# 3.16.36 interface include

**Description**
Specify Ethernet-interface name which will be added to the software bridge as a port.

Command with **no** prefix removes the interface from the bridge.

**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 | *Interface name* | Name or alias of the Ethernet-interface that should be plugged into the bridge. |

**Example**

```
(config-if)> include WifiStation0
Interface acquired.
```

**History**

| Version | Description |
|---------|-------------|
| 2.00 | The **interface include** command has been introduced. |

## 3.16.37 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 | *Interface name* | Name or alias of the Ethernet-interface that should be plugged into the bridge. |

**Example**

```
(config-if)> inherit WifiStation0
Interface acquired.
```

**History**

| Version | Description |
|---------|-------------|
| 2.00 | The **interface inherit** command has been introduced. |

## 3.16.38 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 | *String* | List of filtering rules as previously created using **access-list** command. |
| direction | in | Apply filtering to incoming packets. |
| | out | Apply filtering to outgoing packets. |

**Example**

```
(config-if)> ip access-group 111 in
Access group applied.
```

**History**

| Version | Description |
|---------|-------------|
| 2.00 | The **interface ip access-group** command has been introduced. |

## 3.16.39 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 | *IP-address* | The network interface address. |
| mask | *IP-mask* | 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)> interface
   FastEthernet0/Vlan43
Created interface FastEthernet0/Vlan43.
(config-if)> ip address 172.17.24.9 255.255.255.0
Network address saved.
(config-if)> ip address 172.17.24.9/24
Network address saved.
(config-if)> [Ctrl]+[D]
(config)> show interface FastEthernet0/Vlan43

             mac: 00:23:f8:5b:d3:f4
           index: 43
            type: Vlan
     description:
           state: up
            link: down
         address: 172.17.24.9
            mask: 255.255.255.0
             mtu: 1500
          global: no

(config)>
```

**History**

| Version | Description |
|---|---|
| 2.00 | The **interface ip address** command has been introduced. |

## 3.16.40 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** [ **hostname** ‹*hostname*› ]

| (config-if)> **no ip address dhcp**

**Arguments**

| Argument | Value | Description |
|---|---|---|
| hostname | *String* | Name of the host to be placed in the DHCP option 12 field. This name need not be the same as the host name entered in global configuration mode. |

**Example**    (config-if)> **ip address dhcp hostname test-123**
Dhcp::Client: started DHCP client on FastEthernet0/Vlan2.

**History**

| Version | Description |
|---|---|
| 2.00 | The **interface ip address dhcp** command has been introduced. |

## 3.16.41 interface ip adjust-ttl

**Description**    Modify the TTL of the first packet for all incoming interface connections.

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** (**inc** | **dec** | **set**) ‹*value*›

> (config-if)> **no ip adjust-ttl**

**Arguments**

| Argument | Value | Description |
|---|---|---|
| inc | *Keyword* | The keyword to increase TTL. |
| dec | *Keyword* | The keyword to decrease TTL. |
| set | *Keyword* | Modify the TTL for all incoming packets. |
| value | *Integer* | The value of TTL changing. Can take values from 1 to 255 inclusively. |

**Example**

```
(config-if)> ip adjust-ttl inc 10
Network::Interface::IP: TTL adjustment enabled.
```

**History**

| Version | Description |
|---|---|
| 2.00 | The **interface ip adjust-ttl** command has been introduced. |
| 2.09 | Keyword set was added. |

## 3.16.42 interface ip adjust-ttl send

**Description**     Modify the TTL for all packets of outgoing interface connections.

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 | *Integer* | The value of TTL changing. Can take values from 1 to 255 inclusively. |

**Example**

```
(config-if)> ip adjust-ttl send 10
Network::Interface::IP: Outgoing TTL set to 10.
```

**History**

| Version | Description |
|---------|-------------|
| 2.09 | The **interface ip adjust-ttl send** command has been introduced. |

## 3.16.43 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 | `IP-address` | Additional address of the network interface. |
| mask | `IP-mask` | 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
IP alias saved.
```

**History**

| Version | Description |
|---------|-------------|
| 2.00 | The **interface ip alias** command has been introduced. |

## 3.16.44 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 |

| **Synopsis** | (config-if)> **ip dhcp client class-id** ‹*class*› |
| --- | --- |
| | (config-if)> **no ip dhcp client class-id** |

| **Arguments** | **Argument** | **Value** | **Description** |
| --- | --- | --- | --- |
| | class | *String* | Vendor class name. |

| **Example** | (config-if)> **ip dhcp client class-id "Keenetic Lite"**<br>Dhcp::Client: ISP DHCP client vendor class is set to "Keenetic ►<br>Lite". |
| --- | --- |

| **History** | **Version** | **Description** |
| --- | --- | --- |
| | 2.02 | The **interface ip dhcp client class-id** command has been introduced. |

# 3.16.45 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**<br>Dhcp::Client: Home DHCP client debug enabled. |
| --- | --- |

| **History** | **Version** | **Description** |
| --- | --- | --- |
| | 2.01 | The **interface ip dhcp client debug** command has been introduced. |

# 3.16.46 interface ip dhcp client displace

| | |
|---|---|
| **Description** | Displace static address of *interface* 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** ‹*interface*›

> (config-if)> **no ip dhcp client displace** ‹*interface*›

**Arguments**

| Argument | Value | Description |
|---|---|---|
| interface | *Interface name* | Name or alias of the interface whose static address will be displaced. |

**Example**

```
(config-if)> ip dhcp client displace Home
Dhcp::Client: added CdcEthernet0 Home displacement.
```

**History**

| Version | Description |
|---|---|
| 2.03 | The **interface ip dhcp client displace** command has been introduced. |

# 3.16.47 interface ip dhcp client dns-routes

| | |
|---|---|
| **Description** | Enable automatic addition of host routes to the DNS-server received from the DHCP-server. Enabled by default. |
| | 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: Home DHCP client DNS host routes enabled.
```

**History**

| Version | Description |
|---------|-------------|
| 2.00 | The **interface ip dhcp client dns-routes** command has been introduced. |

# 3.16.48 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 | *String* | 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.
```

**History**

| Version | Description |
|---------|-------------|
| 2.05 | The **interface ip dhcp client fallback** command has been introduced. |

# 3.16.49 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 | *String* | The host name to assign. |

**Example**

```
(config-if)> ip dhcp client hostname HostName
Dhcp::Client: Home DHCP client hostname is set to HostName.
```

**History**

| Version | Description |
|---|---|
| 2.00 | The **interface ip dhcp client hostname** command has been introduced. |

# 3.16.50 interface ip dhcp client name-servers

**Description**

Use *DNS*-server addresses which are received via *DHCP*. This function is enabled by default.

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: Home DHCP name servers are enabled.
```

**History**

| Version | Description |
|---|---|
| 2.00 | The **interface ip dhcp client name-servers** command has been introduced. |

# 3.16.51 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`

> (config-if)> `no ip dhcp client release`

**Example**

```
(config-if)> ip dhcp client release
Dhcp::Client: IP address released.
```

**History**

| Version | Description |
|---------|-------------|
| 2.03 | The **interface ip dhcp client release** command has been introduced. |

# 3.16.52 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`

> (config-if)> `no ip dhcp client renew`

**Example**

```
(config-if)> ip dhcp client renew
Dhcp::Client: IP address renewed.
```

**History**

| Version | Description |
|---------|-------------|
| 2.03 | The **interface ip dhcp client renew** command has been introduced. |

# 3.16.53 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

**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.
```

**History**

| Version | Description |
|---------|-------------|
| 2.05 | The **interface ip dhcp client routes** command has been introduced. |

# 3.16.54 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*›

(config-if)> **no ip global**

| Arguments | Argument | Value | Description |
|---|---|---|---|
| | priority | *Integer* | Interface priority to configure the default route. Can take values from 1 to 65534. |

**Example**

```
(config-if)> ip global 10
Interface is set as global.
```

**History**

| Version | Description |
|---|---|
| 2.00 | The **interface ip global** command has been introduced. |

## 3.16.55 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 cancels the command.

**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 | *Integer* | *MRU* value. |

**Example**

```
(config-if)> ip mru 1400
MRU saved.
```

**History**

| Version | Description |
|---|---|
| 2.00 | The **interface ip mru** command has been introduced. |

## 3.16.56 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 | *Integer* | *MTU* value. Can take values from 64 to 65535 inclusively. |

**Example**
```
(config-if)> ip mtu 5000
MTU saved.
```

**History**

| Version | Description |
|---|---|
| 2.00 | The **interface ip mtu** command has been introduced. |

## 3.16.57 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 | *IP-address* | A remote peer address. |

**Example**
```
(config-if)> ip remote 192.168.2.19
Remote address saved.
```

**History**

| Version | Description |
|---------|-------------|
| 2.00 | The **interface ip remote** command has been introduced. |

## 3.16.58 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 | *Keyword* | Set the upper limit of *MSS*, equal to the minimum *MTU* along the path to the remote peer. |
| mss | *Integer* | *MSS* upper limit. |

**Example**

```
(config-if)> ip tcp adjust-mss pmtu
TCP-MSS adjustment enabled.
```

**History**

| Version | Description |
|---------|-------------|
| 2.00 | The **interface ip tcp adjust-mss** command has been introduced. |

## 3.16.59 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**<br>Using peer as a default gateway. |

| | | |
|---|---|---|
| **History** | **Version** | **Description** |
| | 2.00 | The **interface ipcp default-route** command has been introduced. |

## 3.16.60 interface ipcp dns-routes

| | |
|---|---|
| **Description** | Use routes which are received via *IPCP*. By default, the setting is enabled.<br><br>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**<br>DNS routes enabled |

| | | |
|---|---|---|
| **History** | **Version** | **Description** |
| | 2.02 | The **interface ipcp dns-routes** command has been introduced. |

## 3.16.61 interface ipcp name-servers

| | |
|---|---|
| **Description** | Use *DNS* servers addresses which are received via *IPCP*. By default, the setting is enabled.<br><br>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**<br>Using remote name servers. |
| --- | --- |

| **History** | **Version** | **Description** |
| --- | --- | --- |
| | 2.00 | The **interface ipcp name-servers** command has been introduced. |

## 3.16.62 interface ipcp vj

| **Description** | Enable compression of TCP/IP headers by Van Jacobson's method. |
| --- | --- |
| | 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 | *Keyword* | Enable compression of Connection ID into headers. |

| **Example** | (config-if)> **ipcp vj cid**<br>VJ compression enabled.<br><br>Network::Interface::PPP: done. |
| --- | --- |

| **History** | **Version** | **Description** |
| --- | --- | --- |
| | 2.03 | The **interface ipcp vj** command has been introduced. |

# 3.16.63 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, PFS is mandatory, priority is given to AES256 and SHA1. |
|  | weak-pfs | The same as weak, but for the second phase PFS group 1 and 2 is enabled. |
|  | normal-pfs | The same as normal, but for the second phase PFS group 2 and 5 is enabled. |
|  | normal-3des-pfs | The same as normal-3des, but for the second phase PFS group 5 and 14 is enabled. |

**Example**
```
(config-if)> ipsec encryption-level weak
Network::Interface::Secure: "Gre0": security level is set to ►
"weak".
```

```
(config-if)> no ipsec encryption-level
Network::Interface::Secure: "Gre0": security level was reset.
```

**History**

| Version | Description |
|---|---|
| 2.08 | The **interface ipsec encryption-level** command has been introduced. |

# 3.16.64 interface ipsec ignore

| | |
|---|---|
| **Description** | Disable *IPSec* service for the interface. |
| | Command with **no** prefix cancels the setting. |
| **Prefix no** | Yes |
| **Change settings** | Yes |
| **Multiple input** | No |

**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 **interface ipsec ignore** command has been introduced. |

# 3.16.65 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 **interface ipsec ikev2** command has been introduced. |

## 3.16.66 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 | *String* | Secret PSK key value. |

**Example**

```
(config-if)> ipsec preshared-key 12345678
Network::Interface::Secure: "Gre0": preshared key was set.
```

```
(config-if)> no ipsec preshared-key
Network::Interface::Secure: "Gre0": preshared key was reset.
```

**History**

| Version | Description |
|---------|-------------|
| 2.08 | The **interface ipsec preshared-key** command has been introduced. |

## 3.16.67 interface ipv6 address

**Description**

Confgure 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*› | **auto**) |
| | (config-if)> **no ipv6 address** [ ‹*address*› | **auto**] |

**Arguments**

| Argument | Value | Description |
|---|---|---|
| address | *IPv6-address* | Name server address. |
| auto | *Keyword* | Enable stateless autoconfiguration. |

**Example**

```
(config-if)> ipv6 address 2001:db8::1
Static IPv6 address saved.
```

**History**

| Version | Description |
|---|---|
| 2.00 | The **interface ipv6 address** command has been introduced. |

## 3.16.68 interface ipv6 force-default

| | |
|---|---|
| **Description** | Force the interface to be used as default IPv6 gateway. By default, the setting is disabled. |
| | Command with **no** prefix removes the setting. |
| **Prefix no** | Yes |
| **Change settings** | Yes |
| **Multiple input** | No |

| | |
|---|---|
| **Synopsis** | (config-if)>  **ipv6 force-default** |
| | (config-if)> **no ipv6 force-default** |

**Example**

```
(config-if)> ipv6 force-default
interface is forced to be the default IPv6 gateway
```

**History**

| Version | Description |
|---|---|
| 2.00 | The **interface ipv6 force-default** command has been introduced. |

## 3.16.69 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 | *Keyword* | 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 **interface ipv6 name-servers** command has been introduced. |

## 3.16.70 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 | *Keyword* | Enable prefix delegation. |
| prefix | *Prefix* | Manual input of prefix. |

**Example**

```
(config-if)> ipv6 prefix 2001:db8:43:ab12::/64
Static IPv6 prefix added.
```

| History | Version | Description |
|---|---|---|
| | 2.00 | The **interface ipv6 prefix** command has been introduced. |

## 3.16.71 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**<br>IPv6CP enabled. |

| History | Version | Description |
|---|---|---|
| | 2.00 | The **interface ipv6cp** command has been introduced. |

## 3.16.72 interface lcp acfc

| | |
|---|---|
| **Description** | Enable compression negotiation of the *Data Link Layer Address and Control fields*. |
| | 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 | *Keyword* | Enable compression of Connection ID into headers. |

**Example**

```
(config-if)> lcp acfc cid
ACFC compression enabled.

Network::Interface::PPP: done.
```

**History**

| Version | Description |
|---|---|
| 2.03 | The **interface lcp acfc** command has been introduced. |

## 3.16.73 interface lcp echo

**Description**

Specify the testing rules of the *PPP* connection with *LCP* echo tools.

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 | *Integer* | Interval between sending *LCP* echo, in seconds. If within the specified time interval there is no *LCP* echo request from the remote location, the same request will be sent there asking for response *LCP* reply. |
| count | *Integer* | The number of consecutive requests *LCP* echo sent, for which no response *LCP* reply was received. If count of *LCP* echo requests goes unanswered, the connection is terminated. |
| adaptive | *Keyword* | 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 5 3
LCP echo parameters updated.
```

**History**

| Version | Description |
|---------|-------------|
| 2.00 | The **interface lcp echo** command has been introduced. |
| 2.06 | The adaptive keyword has been added. |

## 3.16.74 interface lcp pfc

**Description**       Enable compression negotiation of the *PPP Protocol field*.

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 | *Keyword* | Enable compression of Connection ID into headers. |

**Example**

```
(config-if)> lcp pfc cid
PFC compression enabled.

Network::Interface::PPP: done.
```

**History**

| Version | Description |
|---------|-------------|
| 2.03 | The **interface lcp pfc** command has been introduced. |

## 3.16.75 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 *ACL*. |

**Example**

```
(config-if)> mac access-list address 4C:0F:6E:4B:3C:BA
mac address added
```

**History**

| Version | Description |
|---|---|
| 2.00 | The **interface mac access-list address** command has been introduced. |

## 3.16.76 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
set access-policy: permit
```

| History | Version | Description |
|---------|---------|-------------|
| | 2.00 | The **interface mac access-list type** command has been introduced. |

## 3.16.77 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** ‹*address*›

| (config-if)> **no mac address**

**Arguments**

| Argument | Value | Description |
|----------|-------|-------------|
| mac | *MAC-address* | New MAC-address of the interface. |

**Example**      
```
(config-if)> mac address 3C:1F:6E:2A:1C:BA
MAC address saved.
```

**History**

| Version | Description |
|---------|-------------|
| 2.00 | The **interface mac address** command has been introduced. |

## 3.16.78 interface mac address factory

**Description**      Set the factory MAC-address to the interface.

**Prefix no**          No

**Change settings**      Yes

**Multiple input**      No

| Interface type | 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. |

**Example**

```
(config-if)> mac address factory lan
Core::System::UConfig: done.
```

**History**

| Version | Description |
|---|---|
| 2.00 | The **interface mac address factory** command has been introduced. |

## 3.16.79 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
MAC address saved.
```

**History**

| Version | Description |
|---|---|
| 2.00 | The **interface mac clone** command has been introduced. |

## 3.16.80 interface peer

**Description**       Specify ID of the remote peer to which the *PPP* connection will be used. A more precise meaning of configurition depends on interface type. For example, for PPPoE the **interface peer** command specifies the name of access hub, and for PPTP — remote host name or IP-address.

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 | *String* | Remote connection point ID. |

| **Example** | (config-if)> **peer 111**<br>Core::Configurator: done. |
|---|---|

| **History** | **Version** | **Description** |
|---|---|---|
| | 2.00 | The **interface peer** command has been introduced. |

# 3.16.81 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 | *String* | Profile name to assign. |

| **Example** | (config-if)> **ping-check profile TEST**<br>PingCheck::Client: added "ISP" to "TEST" profile. |
|---|---|

| **History** | **Version** | **Description** |
|---|---|---|
| | 2.04 | The **interface ping-check profile** command has been introduced. |

# 3.16.82 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. |
| **Prefix no** | No |
| **Change settings** | Yes |
| **Multiple input** | No |
| **Interface type** | Radio |

**Synopsis**

> (config-if)>    **power** ‹*power*›

**Arguments**

| Argument | Value | Description |
|---|---|---|
| power | *Integer* | The transmitter power as the percentage of the maximum power (from 1 to 100). |

**Example**

```
(config-if)> power 90
Power level applied.
```

**History**

| Version | Description |
|---|---|
| 2.00 | The **interface power** command has been introduced. |

# 3.16.83 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**

**Arguments**

| Argument | Value | Description |
|---|---|---|
| service | *String* | Name of PPPoE service. |

| **Example** | ```
(config-if)> pppoe service test
Core::Configurator: done.
``` |

| **History** | Version | Description |
| --- | --- | --- |
| | 2.05 | The **interface pppoe service** command has been introduced. |

# 3.16.84 interface preamble-short

| **Description** | Use short *preamble*. |
| --- | --- |
| **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
Short preamble enabled.
``` |

| **History** | Version | Description |
| --- | --- | --- |
| | 2.00 | The **interface preamble-short** command has been introduced. |

# 3.16.85 interface rekey-interval

| **Description** | Set the period of time between automatic changes of the secret keys, which all devices on the network share.

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 | *Integer* | Value of rekey interval in seconds. |

**Example**

```
(config-if)> rekey-interval 3600
Network::Interface::Rtx::WifiMaster: Rekey interval is 3600 sec.
```

**History**

| Version | Description |
|---------|-------------|
| 2.06 | The **interface rekey-interval** command has been introduced. |

## 3.16.86 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.

**Prefix no**     Yes

**Change settings**     Yes

**Multiple input**     No

**Synopsis**     (config-if)>   **rename** ‹*rename*›

(config-if)> **no rename**

**Arguments**

| Argument | Value | Description |
|----------|-------|-------------|
| rename | *String* | New interface name. |

**Example**

```
(config-if)> rename New_interface_name
Network::Interface::Base: "Bridge0": renamed to ▶
"New_interface_name".
```

**History**

| Version | Description |
|---------|-------------|
| 2.08 | The **interface rename** command has been introduced. |

## 3.16.87 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` | *Hexadecimal number* | Memory cell location. Can take values from 1E0 to 1FE. |
| `value` | *Hexadecimal number* | Value to be set. Can take values 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 **interface rf e2p set** command has been introduced. |

## 3.16.88 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.

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
(config)> interface PPPoE0 security-level private
(config)> no isolate-private
```

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 **interface security-level** command has been introduced. |
| 2.06 | The protected parameter was added. |

## 3.16.89 interface speed

| | |
|---|---|
| **Description** | Configure the speed of the Ethernet interface. By default, auto value is set.<br><br>Command with **no** prefix resets setting to default. |
| **Prefix no** | Yes |
| **Change settings** | Yes |
| **Multiple input** | No |
| **Interface type** | Ethernet |
| **Synopsis** | (config-if)> **speed** ‹*speed*›<br><br>(config-if)> **no speed** |

**Arguments**

| Argument | Value | Description |
|----------|-------|-------------|
| speed | 10 | 10 Mbit/s. |
| | 100 | 100 Mbit/s. |
| | 1000 | 1 Gbit/s. |
| | auto | Automatical speed configuration. |

**Example**

```
(config-if)> speed 1000
Network::Interface::Ethernet: Speed set to 1000.
```

**History**

| Version | Description |
|---------|-------------|
| 2.06.B.1 | The **interface speed** command has been introduced. |

## 3.16.90 interface speed nonegotiate

**Description**          Disable autonegotiation.

Command with **no** prefix enable 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: "GigabitEthernet0/0": ▶
autonegotiation will be disabled for fixed speed.
```

**History**

| Version | Description |
|---------|-------------|
| 2.08 | The **interface speed nonegotiate** command has been introduced. |

## 3.16.91 interface ssid

**Description**          Specify the wireless network name (SSID) for interfaces "wireless station" and "access point". Depending on the type of interface, SSID value is processed differently.

- For the access point SSID  there needs to be a setup without which the it would not accept incoming connections.

- For station, SSID defines to which access point it will connect. Without a specified SSID, the station can connect to any available wireless network at its own discretion.

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

| | |
|---|---|
| **Prefix no** | Yes |
| **Change settings** | Yes |
| **Multiple input** | No |
| **Interface type** | SSID |

**Synopsis**

(config-if)>    **ssid** (**auto** | *‹ssid›* )

(config-if)> **no ssid**

**Arguments**

| Argument | Value | Description |
|---|---|---|
| ssid | *String* | Wireless Network Name (SSID). |
| auto | *Keyword* | SSID will be assigned automatically. |

**Example**

```
(config-if)> ssid WIRELESS
SSID saved.
```

**History**

| Version | Description |
|---|---|
| 2.00 | The **interface ssid** command has been introduced. |

## 3.16.92 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 | *Integer* | Access *VLAN* ID. Can take values from 1 to 4094 inclusively. |

**Example**

```
(config-if)> switchport access vlan 1
Network::Interface::Switch: "FastEthernet0/0": set access VLAN ►
ID: 1.
```

**History**

| Version | Description |
|---|---|
| 2.06 | The **interface switchport access** command has been introduced. |

## 3.16.93 interface switchport friend

**Description**    Configure undirectional *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 | *Integer* | Friend *VLAN* ID. Can take values from 1 to 4094 inclusively. |

**Example**

```
(config-if)> switchport friend vlan 2
Network::Interface::Switch: "FastEthernet0/0": set friend VLAN ►
ID: 2.
```

**History**

| Version | Description |
|---|---|
| 2.06 | The **interface switchport friend** command has been introduced. |

## 3.16.94 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 *VLAN*, that is the mode when only the untagged frames pass through the port. The incoming frames get tagged with the PVID marker, which is set with **switchport access** command. The port is an output one only for *VLAN* with PVID ID. Once a frame is transferred to the port, the *VLAN* marker gets removed. |
| | trunk | Enable the *VLAN* 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 *VLAN* networks that include the port is set with **switchport trunk** command. |
| q-in-q | *Keyword* | Enable double tagging. |

**Example**

```
(config-if)> switchport mode access
Network::Interface::Switch: "FastEthernet0/1": access mode ▶
enabled.
```

**History**

| Version | Description |
|---|---|
| 2.06 | The **interface switchport mode** command has been introduced. |

# 3.16.95 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.<br><br>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* | *VLAN* ID. Can take values from 1 to 4094 inclusively. |

**Example**

```
(config-if)> switchport trunk vlan 100
Network::Interface::Switch: "FastEthernet0/1": set trunk VLAN ►
ID: 100.
```

**History**

| Version | Description |
|---|---|
| 2.06 | The **interface switchport trunk** command has been introduced. |

# 3.16.96 interface traffic-shape

| | |
|---|---|
| **Description** | Set the limit of data rate on a specified interface in both directions. By default speed is not limited.<br><br>Command with **no** prefix removes the setting. |
| **Prefix no** | Yes |
| **Change settings** | Yes |
| **Multiple input** | No |

**Synopsis**

> (config-if)>    **traffic-shape rate** ‹*rate*›

> (config-if)> **no traffic-shape**

**Arguments**

| Argument | Value | Description |
|---|---|---|
| rate | *Integer* | Value of data rate in Kbps. Limit sould be in the range from 64 Kbps to 1 Gbps. |

**Example**

```
(config-if)> traffic-shape rate 800
TrafficControl::Manager: "AccessPoint" interface rate limited ►
to 800 Kbps.
```

**History**

| Version | Description |
|---|---|
| 2.05 | The **interface traffic-shape** command has been introduced. |

# 3.16.97 interface tsp

**Description**        Access to a group of commands to configure *TSP*.

Command with **no** prefix disables *TSP*.

**Prefix no**          Yes

**Change settings**    Yes

**Multiple input**     No

**Interface type**     TunnelSixInFour

**Group entry**        `(config-if-tsp)`

**Synopsis**           | (config-if)>   **tsp**

| (config-if)> **no tsp**

**History**

| Version | Description |
|---|---|
| 2.00 | The **interface tsp** command has been introduced. |

## 3.16.97.1 interface tsp password

**Description**        Configure password to connect via TSP.

Command with **no** prefix clears password.

**Prefix no**          Yes

**Change settings**    Yes

**Multiple input**     No

**Interface type**     TunnelSixInFour

**Synopsis**

| (config-if-tsp)> **password** ‹*password*›

| (config-if-tsp)> **no password**

**Arguments**

| Argument | Value | Description |
|---|---|---|
| password | *String* | *TSP* password. |

**History**

| Version | Description |
|---|---|
| 2.00 | The **interface tsp password** command has been introduced. |

### 3.16.97.2 interface tsp prefix-length

**Description** Configure requested prefix length.

Command with **no** prefix clears setting.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Interface type** TunnelSixInFour

**Synopsis**

| (config-if-tsp)> **prefix-length** ‹*length*›

| (config-if-tsp)> **no prefix-length**

**Arguments**

| Argument | Value | Description |
|---|---|---|
| length | *Integer* | Prefix length. Can only take values 48, 56 or 64. |

**History**

| Version | Description |
|---|---|
| 2.00 | The **interface tsp prefix-length** command has been introduced. |

### 3.16.97.3 interface tsp server

**Description** Server IPv4 address which is received from tunnel broker.

Command with **no** prefix removes server's IP.

**Prefix no** Yes

**Change settings** Yes

| | |
|---|---|
| **Multiple input** | No |
| **Interface type** | TunnelSixInFour |

**Synopsis**

| (config-if-tsp)> | **server** ‹*server*› |
|---|---|
| (config-if-tsp)> **no server** | |

**Arguments**

| Argument | Value | Description |
|---|---|---|
| server | *IPv4* | Server IPv4 address. |

**History**

| Version | Description |
|---|---|
| 2.00 | The **interface tsp server** command has been introduced. |

### 3.16.97.4 interface tsp user

**Description**
Configure username to connect via *TSP*.

Command with **no** prefix clears username.

| | |
|---|---|
| **Prefix no** | Yes |
| **Change settings** | Yes |
| **Multiple input** | No |
| **Interface type** | TunnelSixInFour |

**Synopsis**

| (config-if-tsp)> | **user** ‹*user*› |
|---|---|
| (config-if-tsp)> **no user** | |

**Arguments**

| Argument | Value | Description |
|---|---|---|
| user | *String* | *TSP* username. |

**History**

| Version | Description |
|---|---|
| 2.00 | The **interface tsp user** command has been introduced. |

## 3.16.98 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 | *String* | IP address or domain name of the remote host. |

**Example**

```
(config-if)> tunnel destination ya.ru
Network::Interface::Tunnel: "Gre0": destination set to ya.ru.
```

```
(config-if)> no tunnel destination
Network::Interface::Tunnel: "Gre0": destination was reset.
```

**History**

| Version | Description |
|---|---|
| 2.08 | The **interface tunnel destination** command has been introduced. |

## 3.16.99 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 | *Integer* | 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 **interface tunnel eoip id** command has been introduced. |

## 3.16.100 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.

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

**Prefix no**          Yes

**Change settings**    Yes

**Multiple input**     No

**Interface type**     Tunnel

**Synopsis**

| (config-if)>    **tunnel source** (**auto** | *‹interface›* | *‹address›* )

| (config-if)> **no tunnel source**

**Arguments**

| Argument | Value | Description |
|----------|-------|-------------|
| auto | *Keyword* | Set the current working WAN interface. |
| interface | *Interface name* | Full interface name or an alias. |
| address | *IP-address* | Local IP-adress of the tunnel. |

**Example**

```
(config-if)> tunnel source auto
Network::Interface::Tunnel: "Gre0": source interface set to auto.

(config-if)> no tunnel source
Network::Interface::Tunnel: "Gre0": source was reset.
```

**History**

| Version | Description |
|---------|-------------|
| 2.08 | The **interface tunnel source** command has been introduced. |
| 2.09 | The **auto** argument has been added. |

# 3.16.101 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 **interface tx-burst** command has been introduced. |

# 3.16.102 interface tx-queue

| | |
|---|---|
| **Description** | Set the size of the queue of outgoing packets on the interface. By default 1000 is set. |
| | Command with **no** prefix resets to default. |
| **Prefix no** | Yes |
| **Change settings** | Yes |
| **Multiple input** | No |

**Synopsis**

> (config-if)>   **tx-queue** ‹*length*›

> (config-if)> **no tx-queue**

**Arguments**

| Argument | Value | Description |
|---|---|---|
| length | *Integer* | Queue length can take values from 0 to 65536. |

**Example**

```
(config-if)> tx-queue 255
Tx queue length saved.
```

| History | Version | Description |
|---------|---------|-------------|
| | 2.02 | The **interface tx-queue** command has been introduced. |

## 3.16.103 interface up

**Description**    Enable the network interface and persist the state "up" to the settings.

Command with **no** prefix disables the the network interface and deletes "up" from settings. Also **interface down** command can be used.

**Prefix no**    Yes

**Change settings**    Yes

**Multiple input**    No

**Synopsis**    (config-if)>    **up**

(config-if)> **no up**

**Example**    (config-if)> **up**
Interface enabled.

| History | Version | Description |
|---------|---------|-------------|
| | 2.00 | The **interface up** command has been introduced. |

## 3.16.104 interface usb power-cycle

**Description**    Turn off power on the usb-modem for a specified period of time. This function is used to hardware reset usb-modem in case of freezing.

**Prefix no**    No

**Change settings**    No

**Multiple input**    No

**Interface type**    Usb

**Synopsis**    (config-if)>    **usb power-cycle** ‹pause›

**Arguments**

| Argument | Value | Description |
|----------|-------|-------------|
| pause | *Integer* | Period of time in which usb-modem will be disabled, in milliseconds. |

**Example**    (config-if)> **usb power-cycle 3000**
Core::Configurator: done.

| History | Version | Description |
|---|---|---|
| | 2.03 | The **interface usb power-cycle** command has been introduced. |

## 3.16.105 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 **interface wmm** command has been introduced. |

## 3.16.106 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 **interface wps** command has been introduced. |

# 3.16.107 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 **interface wps auto-self-pin** command has been introduced. |

# 3.16.108 interface wps button

| | |
|---|---|
| **Description** | Start WPS process using a software button. Process takes 2 minutes or until the first connection occured. |
| **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 Keenetic Lite. |

**Example**

```
(config-if)> wps button send
Sending WiFi configuration process started (software button mode).
```

| History | Version | Description |
|---|---|---|
| | 2.00 | The **interface wps button** command has been introduced. |

## 3.16.109 interface wps peer

| | |
|---|---|
| **Description** | Start WPS process using peer PIN. Process takes 2 minutes or until the first connection occured. |
| **Prefix no** | No |
| **Change settings** | No |
| **Multiple input** | No |
| **Interface type** | WiFi |
| **Synopsis** | (config-if)> **wps peer** ‹*direction*› ‹*pin*› |

| **Argument** | **Value** | **Description** |
|---|---|---|
| direction | send | Send WiFi configuration. |
| | receive | Receive WiFi configuration from Keenetic Lite. |
| pin | *String* | PIN code of the remote peer. |

**Arguments**

**Example**

```
(config-if)> wps peer receive 99586683
Receiving WiFi configuration process started (peer PIN mode).
```

| History | Version | Description |
|---|---|---|
| | 2.04 | The **interface wps peer** command has been introduced. |

## 3.16.110 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 Keenetic Lite. |

**Example**

```
(config-if)> wps self-pin receive
Receiving WiFi configuration process started (self PIN mode).
```

**History**

| Version | Description |
|---|---|
| 2.00 | The **interface wps self-pin** command has been introduced. |

# 3.17 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 entrys 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 | *IP-address* | IP-address in four-part dotted decimal format corresponding to the local data-link address. |
| mac | *MAC-address* | MAC-address as six groups of two hexadecimal digits separated by colons. |

**Example**

```
(config)> ip arp 192.168.93.52 00:A0:CC:23:AF:4A
Network::ArpTable: Static ARP entry saved.
```

**History**

| Version | Description |
|---|---|
| 2.00 | The **ip arp** command has been introduced. |

# 3.18 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 | *String* | The vendor-class name. |

**Example**

```
(config)> ip dhcp class STB-One
Dhcp::Server: Vendor class "STB-One" has been created.
```

**History**

| Version | Description |
|---|---|
| 2.00 | The **ip dhcp class** command has been introduced. |

## 3.18.1 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 | *Integer* | Option number. Now the only 60 value is used. |

| Argument | Value | Description |
|----------|-------|-------------|
| data | *String* | 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 **ip dhcp class option** command has been introduced. |

# 3.19 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 | *String* | Arbitrary host name, used to identify a MAC-IP pair in the settings. |
| mac | *MAC-address* | MAC-address of the host for static linking of IP-address. If not specified, the value is taken from the previous configuration. |
| ip | *IP-address* | 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 **ip dhcp host** command has been introduced. |

# 3.20 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 | *String* | DHCP pool name. |

**Example**

```
(config)> ip dhcp pool test_pool
pool "test_pool" has been created.
```

**History**

| Version | Description |
|---------|-------------|
| 2.00 | The **ip dhcp pool** command has been introduced. |

# 3.20.1 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 | *Interface name* | Full interface name or an alias. |

**Example**

```
(config-dhcp-pool)> bind FastEthernet0/Vlan2
pool "test_pool" bound to interface FastEthernet0/Vlan2.
```

**History**

| Version | Description |
|---|---|
| 2.00 | The **ip dhcp pool bind** command has been introduced. |

# 3.20.2 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 | *String* | 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 **ip dhcp pool class** command has been introduced. |

## 3.20.2.1 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 | *String* | 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 **ip dhcp pool class option** command has been introduced. |

## 3.20.3 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 **ip dhcp pool debug** command has been introduced. |

## 3.20.4 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 | *IP-address* | 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 **ip dhcp pool default-router** command has been introduced. |

# 3.20.5 ip dhcp pool dns-server

| | |
|---|---|
| **Description** | Configure IP-addresses of the DNS servers. 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* ]

> (config-dhcp-pool)> **no dns-server**

**Arguments**

| Argument | Value | Description |
|---|---|---|
| address1 | *IP-address* | Address of primary DNS-server. |
| address2 | *IP-address* | Address of secondary DNS-server. |

**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 **ip dhcp pool dns-server** command has been introduced. |

# 3.20.6 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 | *String* | Local domain name. |

**Example**

```
(config-dhcp-pool)> domain example.net
Dhcp::Pool: Domain option has been saved.
```

**History**

| Version | Description |
|---|---|
| 2.05 | The **ip dhcp pool domain** command has been introduced. |

## 3.20.7 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 **ip dhcp pool enable** command has been introduced. |

## 3.20.8 ip dhcp pool lease

**Description**          Configure the lease time of DHCP pool IP-address.

Command with **no** prefix sets the default value, equal to 86400 seconds.

**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 | *Integer* | Lease time in seconds. |

**Example**

```
(config-dhcp-pool)> lease 100500
pool "test_pool" lease has been changed.
```

**History**

| Version | Description |
|---------|-------------|
| 2.00 | The **ip dhcp pool lease** command has been introduced. |

## 3.20.9 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 | *IP-address* | Pool's start address. |
| end | *IP-address* | Pool's end address. |
| size | *Integer* | Pool size. |

**Example**

```
(config-dhcp-pool)> range 192.168.15.43 3
pool "_WEBADMIN" range has been saved.
```

**History**

| Version | Description |
|---------|-------------|
| 2.00 | The **ip dhcp pool range** command has been introduced. |

# 3.20.10 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.<br><br>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 **ip dhcp pool update-dns** command has been introduced. |

# 3.20.11 ip dhcp pool wpad

| | |
|---|---|
| **Description** | Configure DHCP option 252 — *WPAD* protocol. By default, the option is disabled.<br><br>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 | *String* | 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 **ip dhcp pool wpad** command has been introduced. |

# 3.21 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 | *Interface name* | 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 **ip dhcp relay lan** command has been introduced. |

# 3.22 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 | IP-address | IP-address of the *DHCP-server*. |

**Example**

```
(config)> ip dhcp relay server 192.168.1.11
using DHCP server 192.168.1.11.
```

**History**

| Version | Description |
|---|---|
| 2.00 | The **ip dhcp relay server** command has been introduced. |

# 3.23 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 name | Full name or an alias of Ethernet interface, on which requests from the DHCP-clients will be sent. |

**Example**

```
(config)> ip dhcp relay wan FastEthernet0/Vlan2
using WAN interface FastEthernet0/Vlan2.
```

**History**

| Version | Description |
|---|---|
| 2.00 | The **ip dhcp relay wan** command has been introduced. |

# 3.24 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 | *String* | A domain name of a host. |
| address | *IP-address* | An IP-address of a host. |

**Example**

```
(config)> ip host zydata.local 192.168.1.22
Dns::Manager: Added static record for "zydata.local", address ▶
192.168.1.22.
```

```
(config)> no ip host zydata.local 192.168.1.22
Dns::Manager: Record "zydata.local", address 192.168.1.22 deleted.
```

**History**

| Version | Description |
|---|---|
| 2.00 | The **ip host** command has been introduced. |

# 3.25 ip hotspot

| | |
|---|---|
| **Description** | Enter the Hotspot configuration command group. |
| **Prefix no** | No |
| **Change settings** | No |
| **Multiple input** | No |
| **Group entry** | (config-hotspot) |

**Synopsis**

> (config)>  **ip hotspot**

**History**

| Version | Description |
|---|---|
| 2.06 | The **ip hotspot** command has been introduced. |

# 3.25.1 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**         | (config-hotspot)>   **auto-scan interface** ‹*interface*›

                     | (config-hotspot)> **no auto-scan interface** ‹*interface*›

**Arguments**

| Argument | Value | Description |
|---|---|---|
| interface | *Interface name* | Full interface name or an alias. |

**Example**
```
(config-hotspot)> auto-scan interface WifiMaster0/AccessPoint1
Hotspot::Discovery::Manager: Subnetwork scanning on interface ►
"WifiMaster0/AccessPoint1" is enabled.
(config-hotspot)> auto-scan no interface WifiMaster0/AccessPoint1
Hotspot::Discovery::Manager: Subnetwork scanning on interface ►
"WifiMaster0/AccessPoint1" is disabled.
```

**History**

| Version | Description |
|---|---|
| 2.08 | The **ip hotspot auto-scan interface** command has been introduced. |

# 3.25.2 ip hotspot auto-scan interval

**Description**       Set interval for probes of online hosts.

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 interval** ‹*interval*›

                     | (config-hotspot)> **no auto-scan interval**

| | Argument | Value | Description |
|---|---|---|---|
| **Arguments** | interval | *Integer* | Auto-scan probe interval in seconds. By default, the value 30 is used. |

**Example**

```
(config-hotspot)> auto-scan interval 10
Hotspot::Discovery::Manager: Auto-scan probe interval is set to ►
10 s.
(config-hotspot)> auto-scan no interval
Hotspot::Discovery::Manager: Auto-scan probe interval reset to ►
default.
```

**History**

| Version | Description |
|---|---|
| 2.08 | The **ip hotspot auto-scan interval** command has been introduced. |

# 3.25.3 ip hotspot auto-scan passive

**Description**  Set passive autoscan rate in hosts per seconds.

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 | *Integer* | Passive autoscan rate. By default, the value 3 is used. |

**Example**

```
(config-hotspot)> auto-scan passive 5 hps
Hotspot::Discovery::Manager: Auto-scan rate is set to 5 hps.
(config-hotspot)> auto-scan no passive
Hotspot::Discovery::Manager: Auto-scan rate reset to default.
```

**History**

| Version | Description |
|---|---|
| 2.08 | The **ip hotspot auto-scan passive** command has been introduced. |

# 3.25.4 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. |
| | 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 | *Integer* | Offline timeout in seconds. By default, the value 35 is used. |

**Example**

```
(config-hotspot)> auto-scan timeout 31
Hotspot::Discovery::Manager: Auto-scan host offline timeout is ▸
set to 31 s.
(config-hotspot)> auto-scan no timeout
Hotspot::Discovery::Manager: Auto-scan host offline timeout reset ▸
to default.
```

**History**

| Version | Description |
|---|---|
| 2.08 | The **ip hotspot auto-scan timeout** command has been introduced. |

# 3.25.5 ip hotspot default-policy

| | |
|---|---|
| **Description** | Define the Hotspot policy for all interfaces. Policy applies to all interfaces that have no explicitly configured access rule, Section 3.25.7 on page 167. |
| | Default policy: permit. |
| | Command with **no** prefix resets policy to default. |
| **Prefix no** | Yes |
| **Change settings** | Yes |
| **Multiple input** | No |
| **Interface type** | IP |

**Synopsis**

(config-hotspot)>  **default-policy** ‹*access*›

(config-hotspot)> **no default-policy**

**Arguments**

| Argument | Value | Description |
|---|---|---|
| access | permit | Permit access to the internet. |
| | deny | Deny access to the internet. |

**Example**

```
(config)> ip hotspot
(config-hotspot)> default-policy [Tab]

 Usage template:
   default-policy {access}

   Choose:
         permit
           deny

(config-hotspot)> default-policy deny
Hotspot::Manager: Default policy "deny" applied.
```

**History**

| Version | Description |
|---|---|
| 2.09 | The **ip hotspot default-policy** command has been introduced. |

# 3.25.6 ip hotspot host

**Description**     Setup bypass or block rules for specific Hotspot clients. Host rules override interface based policy, Section 3.25.7 on page 167.

**Prefix no**     No

**Change settings**     Yes

**Multiple input**     Yes

**Interface type**     IP

**Synopsis**     (config-hotspot)>     **host** ‹*mac*› (‹*access*› | **schedule** ‹*schedule*›)

**Arguments**

| Argument | Value | Description |
|---|---|---|
| mac | *MAC address* | Host MAC address. Host must be registered via known host in advance. |
| access | permit | Permit access to the internet. |
| | deny | Deny access to the internet. |

| Argument | Value | Description |
|---|---|---|
| schedule | *String* | The name of the schedule that was created with schedule group of commands. |

**Example**

```
(config)> known host Daddys-Tablet 54:e4:3a:8a:f3:a7
Core::KnownHosts: New host "Daddys-Tablet" has been created.
(config)> ip hotspot
(config-hotspot)> host 54:e4:3a:8a:f3:a7 [Tab]

 Usage template:
           host {mac} (deny | permit | (schedule {schedule}))

   Choose:
     54:e4:3a:8a:f3:a7 deny
   54:e4:3a:8a:f3:a7 permit
 54:e4:3a:8a:f3:a7 schedule

(config-hotspot)> host 54:e4:3a:8a:f3:a7 permit
Hotspot::Manager: Rule applied to host "54:e4:3a:8a:f3:a7".
```

**History**

| Version | Description |
|---|---|
| 2.06 | The **ip hotspot host** command has been introduced. |

## 3.25.7 ip hotspot policy

**Description**    Define the Hotspot policy for a specific interface. Policy applies to all hosts that have no explicitly configured access rule, Section 3.25.6 on page 166.

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*›

> (config-hotspot)> **no policy** ‹*interface*›

**Arguments**

| Argument | Value | Description |
|---|---|---|
| interface | *Interface name* | Ethernet interface full name or an alias. |

| Argument | Value | Description |
|---|---|---|
| access | `permit` | Permit access to the internet. |
| | `deny` | Deny access to the internet. |

**Example**

```
(config)> ip hotspot
(config-hotspot)> policy Home [Tab]

 Usage template:
          policy {interface} {access}

   Choose:
     Home permit
       Home deny

(config-hotspot)> policy Home deny
Hotspot::Manager: Policy "deny" applied to interface "Home".
```

**History**

| Version | Description |
|---|---|
| 2.06 | The **ip hotspot policy** command has been introduced. |

## 3.25.8 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 | *MAC address* | Host MAC address. |

**History**

| Version | Description |
|---|---|
| 2.08 | The **ip hotspot wake** command has been introduced. |

## 3.26 ip http lockout-policy

**Description**   Set HTTP bruteforce detection parameters for public interfaces. By default, feature is enabled.

Command with **no** prefix disables bruteforce 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 | *Integer* | The number of failed attempts to log in. By default, 5 value is used. |
| duration | *Integer* | An authorization ban duration for the specified IP in minutes. By default, 15 value is used. |
| observation-window | *Integer* | Duration of suspicious activity observation in minutes. By default, 3 value is used. |

**Example**

```
(config)> ip http lockout-policy 10 30 2
Http::Manager: Bruteforce detection is reconfigured.
```

**History**

| Version | Description |
|---|---|
| 2.08 | The **ip http lockout-policy** command has been introduced. |

# 3.27 ip http port

**Description**   Assign HTTP port for Web interface of Keenetic Lite. 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 | *Integer* | New HTTP port. |

**Example**

```
(config)> ip http port 8080
Http::Manager: Port changed to 8080.
```

**History**

| Version | Description |
|---------|-------------|
| 2.08 | The **ip http port** command has been introduced. |

# 3.28 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

**Group entry**       (config-http-proxy)

**Synopsis**      | (config)>    **ip http proxy** ‹name›

| (config)> **no ip http proxy** ‹name›

**Arguments**

| Argument | Value | Description |
|----------|-------|-------------|
| name | *String* | HTTP proxy name. |

**Example**

```
(config)> ip http proxy TEST
Http::Manager: Proxy "TEST" successfully created.
```

**History**

| Version | Description |
|---------|-------------|
| 2.08 | The **ip http proxy** command has been introduced. |

## 3.28.1 ip http proxy allow

**Description**      Set HTTP proxy access. By default, access to the HTTP proxy is denied.

Command with **no** prefix denies access to the proxy.

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

| **Synopsis** | (config-http-proxy)>　**allow public** |
| --- | --- |
| | (config-http-proxy)> **no allow** |

**Arguments**

| Argument | Value | Description |
| --- | --- | --- |
| public | *Keyword* | Public access to the HTTP proxy. |

**Example**

```
(config-http-proxy)> allow public
Http::Manager: Proxy security level is set to "public".
```

**History**

| Version | Description |
| --- | --- |
| 2.08 | The **ip http proxy allow** command has been introduced. |

## 3.28.2 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 |

| **Synopsis** | (config-http-proxy)>　**domain static** ‹*domain*› |
| --- | --- |
| | (config-http-proxy)> **no domain** |

**Arguments**

| Argument | Value | Description |
| --- | --- | --- |
| domain | *String* | A domain name. |

**Example**

```
(config-http-proxy)> domain static example.net
Http::Manager: Configured base domain for proxy: TEST.
```

**History**

| Version | Description |
| --- | --- |
| 2.08 | The **ip http proxy domain** command has been introduced. |

# 3.28.3 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

**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.
```

**History**

| Version | Description |
|---------|-------------|
| 2.08 | The **ip http proxy domain ndns** command has been introduced. |

# 3.28.4 ip http proxy upstream

**Description**    Set HTTP-server address for request redirecting.

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

**Prefix no**    Yes

**Change settings**    Yes

**Multiple input**    No

**Synopsis**    ┃ (config-http-proxy)>    **upstream http** ‹*address-type*› [‹*port*›]

┃ (config-http-proxy)> **no upstream**

**Arguments**

| Argument | Value | Description |
|----------|-------|-------------|
| address-type | mac | HTTP-server address is MAC-address. |
| | ip | HTTP-server address is IP-address. |
| | fqdn | HTTP-server address is full domain name. |
| port | *Integer* | The port number. |

**Example**

```
(config-http-proxy)> upstream http 192.168.1.1 8080
Http::Manager: Proxy "TEST" upstream was set.
```

**History**

| Version | Description |
|---|---|
| 2.08 | The **ip http proxy upstream** command has been introduced. |

# 3.29 ip http security-level

**Description**   Set HTTP security level. 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** | **private** | **protected**)

**Arguments**

| Argument | Value | Description |
|---|---|---|
| public | *Keyword* | Access to the HTTP server is allowed for public, private and protected interfaces. |
| private | *Keyword* | Access to the HTTP server is allowed for private interfaces. |
| protected | *Keyword* | Access to the HTTP server is allowed for private and protected interfaces. |

**Example**

```
(config)> ip http security-level protected
Http::Manager: Security level changed to protected.
```

**History**

| Version | Description |
|---|---|
| 2.08 | The **ip http security-level** command has been introduced. |

# 3.30 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::SslServer: SSL server was enabled.
```

**History**

| Version | Description |
|---|---|
| 2.07 | The **ip http ssl enable** command has been introduced. |

# 3.31 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 |

**Synopsis**

> (config)>   `ip name-server` *‹address›* [ *‹domain›* [ **on** *‹interface›* ] ]

> (config)> `no ip name-server` [ *‹address›* ] [ *‹domain›* [ **on** *‹interface›* ] ]

**Arguments**

| Argument | Value | Description |
|---|---|---|
| address | *IP-address* | Name server address. |
| domain | *String* | 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. |
| interface | *Interface name* | Interface name to configure. |

**Example**

```
(config)> ip name-server 192.168.1.33
added name server 192.168.1.33, domain (default).
```

**History**

| Version | Description |
|---|---|
| 2.00 | The **ip name-server** command has been introduced. |

# 3.32 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 | *Interface name* | Source interface name (full name or an alias). |
| address | *IP-address* | Together with mask *mask* sets the range of source IP-addresses to be translated. |
| mask | *IP-mask* | 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 PPTP0`**<br>`NAT rule added.` |

| History | Version | Description |
| --- | --- | --- |
| | 2.00 | The **ip nat** command has been introduced. |

# 3.33 ip nat vpn

**Description**        Enable translation for VPN clients.

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`**<br>`VPN NAT rule added.` |

| History | Version | Description |
| --- | --- | --- |
| | 2.04 | The **ip nat vpn** command has been introduced. |

# 3.34 ip 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.

As the destination network, one can specify `default` keyword. 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

**Interface type**     IP

**Synopsis**

(config)> **ip route** ( ‹*network*› ‹*mask*› | ‹*host*› | **default** ) ( ‹*gateway*› [ *interface* ] | ‹*interface*› ) [**auto**] [ *metric* ]

(config)> **no ip route** ( ‹*network*› ‹*mask*› | ‹*host*› | **default** ) [ ‹*gateway*› | ‹*interface*› ] [ *metric* ]

**Arguments**

| Argument | Value | Description |
|---|---|---|
| network | *IP-address* | IP-address of the destination network. |
| mask | *IP-mask* | 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 | *IP-address* | IP-address of the destination node. |
| default | *Keyword* | Helps specify default routes. |
| interface | *Interface name* | 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 **interface ip global** 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 | *IP-address* | IP-address of the router in a directly connected network. Can be specified along with the interface name, if it is required to specify **interface ip global** priority. If no interface is specified, the systemd determines it automatically based on the current IP settings. |
| auto | *Keyword* | Allows you to apply the route when specified gateway becomes available. |
| metric | *Integer* | Route metrics. Ignored in the current implementation. |

**Example**

```
(config)> ip route default Home
static route added.
```

**History**

| Version | Description |
|---|---|
| 2.00 | The **ip route** command has been introduced. |

# 3.35 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 | *String* | The domain name to assign. |

**History**

| Version | Description |
|---|---|
| 2.00 | The **ip search-domain** command has been introduced. |

# 3.36 ip static

**Description**      Define translation rule for global and local IP-addresses. If *interface* or *network* corresponds to the interface with secutity level `public`, then the destination address translation (DNAT) will occure. If *to-address* corresponds to the interface with secutity level `public`, then source address translation (SNAT) will occure. 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.

**Prefix no**        Yes

**Change settings**   Yes

**Multiple input**    Yes

**Interface type**    IP

**Synopsis**

> (config)>    `ip static [tcp | udp] (‹interface› | (‹address› ‹mask›)) (( ‹port› through ‹end-port› ‹to-address›) | (‹port› ‹to-address› [‹to-port›]) | ‹to-address›)`

(config)> **no ip static** [ [ **tcp** | **udp**] ( ‹*interface*› | ( ‹*address*› ‹*mask*›) ) ( (
‹*port*› **through** ‹*end-port*› ‹*to-address*›) | ( ‹*port*› ‹*to-address*› [‹*to-port*›])
| ‹*to-address*› ) ]

**Arguments**

| Argument | Value | Description |
|---|---|---|
| protocol | tcp | *TCP* protocol. |
| | udp | *UDP* protocol. |
| interface | *Interface name* | Input interface name (full name or alias). |
| comment | *TBD* | TBD |
| address | *IP-address* | Along with mask *mask* sets the range of destination IP-addresses that are to be translated. |
| mask | *IP-mask* | 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 | *Integer* | TCP/UDP port number for which a translation request comes. If one is not specified, all incoming requests will be translated. |
| end-port | *Integer* | The end of the range of ports. |
| to-address | *IP-address* | The destination address after translation. |
| to-port | *Integer* | TCP/UDP port number after translation. If one is not specified, the destination port remains the same. |

**Example**

Let there be a router between the "local" network 172.16.1.0/24 (secutity
level private) and "global" network 10.0.0.0/16 (secutity 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:

```
interface Home
    ip address 172.16.1.1/24
!
interface Internet
    ip address 10.0.0.1/16
    ip global 1
!
ip nat Home
ip static tcp Internet 80 172.16.1.33 80
```

| History | Version | Description |
|---|---|---|
| | 2.00 | The **ip static** command has been introduced. |

# 3.37 ip telnet

| | |
|---|---|
| **Description** | Access to a group of commands to manage Telnet-server. |
| **Prefix no** | No |
| **Change settings** | No |
| **Multiple input** | No |
| **Group entry** | `(config-telnet)` |
| **Synopsis** | (config)>    `ip telnet` |

| History | Version | Description |
|---|---|---|
| | 2.08 | The **ip telnet** command has been introduced. |

## 3.37.1 ip telnet lockout-policy

| | |
|---|---|
| **Description** | Set Telnet bruteforce detection parameters for public interfaces. By default, feature is enabled.<br><br>Command with **no** prefix disables bruteforce detection. |
| **Prefix no** | Yes |
| **Change settings** | Yes |
| **Multiple input** | No |
| **Interface type** | IP |
| **Synopsis** | (config)>    `ip telnet lockout-policy` *‹threshold›* [*‹duration›* [*‹observation-window›*]]<br><br>(config)> `no ip telnet lockout-policy` |

**Arguments**

| Argument | Value | Description |
|---|---|---|
| `threshold` | *Integer* | The number of failed attempts to log in. By default, 5 value is used. |
| `duration` | *Integer* | An authorization ban duration for the specified IP in minutes. By default, 15 value is used. |

| Argument | Value | Description |
|---|---|---|
| observation-window | *Integer* | Duration of suspicious activity observation in minutes. By default, 3 value is used. |

**Example**

```
(config)> ip telnet lockout-policy 10 30 2
Telnet::Manager: Bruteforce detection is reconfigured.
```

**History**

| Version | Description |
|---|---|
| 2.08 | The **ip telnet lockout-policy** command has been introduced. |

## 3.37.2 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

**Synopsis**

| (config-telnet)>   **port** ‹*number*›

| (config-telnet)> **no port**

**Arguments**

| Argument | Value | Description |
|---|---|---|
| number | *Integer* | Port number. Can take values from 1 to 65535 inclusively. |

**History**

| Version | Description |
|---|---|
| 2.08 | The **ip telnet port** command has been introduced. |

## 3.37.3 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 | *Keyword* | Access to the Telnet-server is allowed for public, private and protected interfaces. |
| private | *Keyword* | Access to the Telnet-server is allowed for private interfaces. |
| protected | *Keyword* | 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 **ip telnet security-level** command has been introduced. |

## 3.37.4 ip telnet session max-count

**Description**       Set the maximal number of simultaneous sessions for telnet connection. By default, 4 is used.

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

**Prefix no**        Yes

**Change settings**  Yes

**Multiple input**   No

**Synopsis**

| (config-telnet)> **session max-count** ‹*count*›

| (config-telnet)> **no session max-count**

**Arguments**

| Argument | Value | Description |
|----------|-------|-------------|
| count | *Integer* | The maximal number of simultaneous sessions. Can take values from 1 to 4 inclusively. |

**Example**

```
(config-telnet)> session max-count 2
Telnet::Server: the maximum session count set to 2.
```

**History**

| Version | Description |
|---------|-------------|
| 2.08 | The **ip telnet session max-count** command has been introduced. |

## 3.37.5 ip telnet session timeout

**Description**      Set the lifetime of inactive session for telnet connection. By default, 0 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

**Synopsis**

| (config-telnet)>   **session timeout** ‹*timeout*›
| (config-telnet)> **no session timeout**

**Arguments**

| Argument | Value | Description |
|----------|-------|-------------|
| `timeout` | *Integer* | The lifetime of inactive session. Can take values from 5 to $2^{32}$ - 1 seconds inclusively. |

**Example**
```
(config-telnet)> session timeout 6
Telnet::Server: a session timeout value set to 6 seconds.
```

**History**

| Version | Description |
|---------|-------------|
| 2.08 | The **ip telnet session timeout** command has been introduced. |

## 3.38 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

**Synopsis**

> (config)>   **ip traffic-shape host** *‹mac›* **rate** *‹rate›* [ **schedule** *‹schedule›* ]

> (config)> **no ip traffic-shape host** [ *‹mac›* ]

**Arguments**

| Argument | Value | Description |
|---|---|---|
| mac | *MAC-address* | MAC-address of the known host. |
| rate | *Integer* | Value of data rate in Kbps. Limit sould be in the range from 64 Kbps to 1 Gbps. |
| schedule | *String* | The name of the schedule according to which the rate limit is set. |

**Example**

```
(config)> ip traffic-shape host f0:de:f1:c8:99:ff rate 800
TrafficControl::Manager: "f0:de:f1:c8:99:ff" host rate limited ►
to 800 Kbps.
```

**History**

| Version | Description |
|---|---|
| 2.05 | The **ip traffic-shape host** command has been introduced. |
| 2.08 | The **schedule** argument was added. |

# 3.39 ipv6 firewall

**Description**     Enable IPv6 firewall. By default, the setting is disabled.

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

**Prefix no**     Yes

**Change settings**     Yes

**Multiple input**     No

**Synopsis**

> (config)>   **ipv6 firewall**

> (config)> **no ipv6 firewall**

**History**

| Version | Description |
|---|---|
| 2.06 | The **ipv6 firewall** command has been introduced. |

# 3.40 ipv6 local-prefix

**Description**     Configure a local (ULA) prefix. Argument can be a literal prefix or **default**, which generates a persistent unique prefix automatically.

| **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 | *Keyword* | Generate persistent unique prefix. |
| prefix | *Prefix* | 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 fd01:db8:43::/48
ULA prefix saved.
```

**History**

| Version | Description |
|---|---|
| 2.00 | The **ipv6 local-prefix** command has been introduced. |

# 3.41 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›*

(config)> **no ipv6 name-server** [ *‹address›* ]

**Arguments**

| Argument | Value | Description |
|---|---|---|
| address | *IPv6-address* | Name server address. |

**Example**

```
(config)> ipv6 name-server 2001:db8::2
added name server 2001:db8::2, domain (default).
```

**History**

| Version | Description |
|---------|-------------|
| 2.00 | The **ipv6 name-server** command has been introduced. |

# 3.42 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, one can specify `default` keyword. 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›*

(config)> **no ipv6 route** ( *‹prefix›* | **default** ) *‹interface›*

**Arguments**

| Argument | Value | Description |
|----------|-------|-------------|
| prefix | *Prefix* | IPv6 prefix. |
| default | *Keyword* | Uses the default prefix. |
| interface | *Interface name* | Full interface name or an alias. |

**Example**

```
(config)> ipv6 route
added name server 2001:db8::2, domain (default).
```

**History**

| Version | Description |
|---------|-------------|
| 2.00 | The **ipv6 route** command has been introduced. |

# 3.43 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 | *String* | Subnet name or an alias. |

**History**

| Version | Description |
|---|---|
| 2.00 | The **ipv6 subnet** command has been introduced. |

# 3.43.1 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** *‹interface›* |
|---|---|
| | `(config-subnet)>` **no bind** [ *‹interface›* ] |

**Arguments**

| Argument | Value | Description |
|---|---|---|
| interface | *Interface name* | Full interface name or an alias. |

**Example**

```
(config-subnet)> bind WifiMaster0/AccessPoint1
Interface bound.
```

**History**

| Version | Description |
|---|---|
| 2.00 | The **ipv6 subnet bind** command has been introduced. |

## 3.43.2 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** ‹*mode*›

**Arguments**

| Argument | Value | Description |
|---|---|---|
| mode | slaac | Enable SLAAC (stateless autoconfiguration). |
|  | dhcp | Enable DHCPv6 server (stateful autoconfiguration). |

**Example**
```
(config-subnet)> mode slaac
Mode changed.
```

**History**

| Version | Description |
|---|---|
| 2.00 | The **ipv6 subnet mode** command has been introduced. |

## 3.43.3 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** ‹*n*›

**Arguments**

| Argument | Value | Description |
|---|---|---|
| n | *Integer* | Unique subnet ID. |

**Example**
```
(config-subnet)> number 3
Number changed.
```

| History | Version | Description |
|---|---|---|
| | 2.00 | The **ipv6 subnet number** command has been introduced. |

## 3.43.4 ipv6 subnet stateless-dhcp

| | |
|---|---|
| **Description** | Enable a local DHCPv6 server for the purposes of network information (i.e. DNS servers) delivery. |
| **Prefix no** | Yes |
| **Change settings** | Yes |
| **Multiple input** | No |

**Synopsis**

> (config-subnet)>   `stateless-dhcp`

> (config-subnet)> `no stateless-dhcp`

| History | Version | Description |
|---|---|---|
| | 2.00 | The **ipv6 subnet stateless-dhcp** command has been introduced. |

# 3.44 isolate-private

| | |
|---|---|
| **Description** | Prohibit data transfer between any interfaces with security level `private`. |
| | 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
Applied.
```

| History | Version | Description |
|---|---|---|
| | 2.00 | The **isolate-private** command has been introduced. |

# 3.45 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 | *String* | Arbitrary host name. |
| mac | *MAC* | MAC-address. |

**Example**

```
(config)> known host 123 4C:0F:6E:4B:3C:BA
Core::KnownHosts: new host "123" has been created.
```

**History**

| Version | Description |
|---|---|
| 2.00 | The **known host** command has been introduced. |

# 3.46 ndns

| | |
|---|---|
| **Description** | Access to a group of commands to manage KeenDNS service. |
| **Prefix no** | No |
| **Change settings** | No |
| **Multiple input** | No |
| **Group entry** | (ndns) |

| **Synopsis** | (config)> **ndns** |
|---|---|

**History**

| Version | Description |
|---|---|
| 2.07 | The **ndns** command has been introduced. |

## 3.46.1 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 nessesary:

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›* | *‹transfer-code›* ]

**Arguments**

| Argument | Value | Description |
|---|---|---|
| name | *String* | The hostname for allocation. |
| domain | *String* | Second-level domain. |
| access | auto | Automatic access type. |
| | cloud | Hostname is registered on the cloud server IP-address, HTTP traffic is tunneled to the Keenetic Lite. |
| | direct | Hostname is registered on the Keenetic Lite WAN-address. |
| transfer-code | *Hexadecimal number* | Code for domain transmission to another Keenetic device. The length is 32 symbols. |

**Example**

```
(ndns)> book-name testname mykeenetic.kz

           done, title = NDSS::ndns/bookName (Public DNS ►
Hostname Booking), code = 200,
icon = tick, hl = true, layout = message:
               client, geo = RU, ip = 81.200.27.56, format = ►
clean, date = 2016-09-
14T10:10:35.999Z, standalone = false:
               reason: The name booking was successful.

               detail, layout = list:
                   columns:
                       column, id = o, title = Operation:
                       column, id = d, title = Detail:
                       column, id = t, title = Time, variant = ►
period, scale = 1:

                       item, hl = false, o = start, d = ►
```

```
[TaskBookName, {"name":"testname",
"domain":"mykeenetic.kz","license":"243992935221479"}], t = 0:
                        item, hl = false, o = lock-local, d = the ►
name is locked (for current
transaction), t = 0:
                        item, hl = false, o = cluster, d = ►
quorumRemaining: 2, quorumPossible: 4,
quorumTotal: 4, t = 0:
                        item, hl = false, o = lock-reply, d = ►
Success: prepare, [NDSS
(key=Binary('7AeaT4+7pQWVMaqO'), alt=Binary('jZnm2OcHFB9fT3pJ'),
dst="/148.251.63.154:17047")], [MsgCack], quorumLeft=2, t = 4:
                        item, hl = false, o = lock-reply, d = ►
Success: prepare, [NDSS
(key=Binary('fS9sK03gWpIkEIl6'), alt=Binary('DvTYDIuPw5nbVayJ'),
dst="/46.105.148.81:17047")], [MsgCack], quorumLeft=1, t = 20:
                        item, hl = false, o = lock-reply, d = Quorum ►
reached, finalizing, t = 20:
                        item, hl = false, o = finalize, d = local ►
changes commited., t = 423:
                        item, hl = false, o = refreshed, d = address ►
updated: 81.200.27.56, t = 444:
                        item, hl = false, o = finalize, d = ►
post-process triggers executed., t = 444:
                        item, hl = false, o = commit-reply, d = ►
Success: finalize,[NDSS
(key=Binary('7AeaT4+7pQWVMaqO'), alt=Binary('jZnm2OcHFB9fT3pJ'),
dst="/148.251.63.154:17047")], [MsgCack], t = 444:
                        item, hl = false, o = lock-reply, d = ►
Success: prepare, [NDSS
(key=Binary('yPrQwfa/4yn676wk'), alt=Binary('SyptNue2bys/mxiO'),
dst="/91.218.112.165:16047")], [MsgCack], quorumLeft=0, t = 444:
                        item, hl = false, o = lock-reply, d = ►
Success: prepare, [NDSS
(key=Binary('IZdU2Bj5ZBsxsTGD'), alt=Binary('L7Wc5lMdYcfDtANq'),
dst="/91.218.112.118:17047")], [MsgCack], quorumLeft=0, t = 444:
                        item, hl = false, o = lock-reply, d = Done, ►
all replies collected., t = 444:
                        item, hl = false, o = commit-reply, d = ►
Success: finalize,[NDSS
(key=Binary('fS9sK03gWpIkEIl6'), alt=Binary('DvTYDIuPw5nbVayJ'),
dst="/46.105.148.81:17047")], [MsgCack], t = 451:
                        item, hl = false, o = commit-reply, d = ►
Success: finalize,[NDSS
(key=Binary('yPrQwfa/4yn676wk'), alt=Binary('SyptNue2bys/mxiO'),
dst="/91.218.112.165:16047")], [MsgCack], t = 494:
                        item, hl = false, o = commit-reply, d = ►
Success: finalize,[NDSS
(key=Binary('IZdU2Bj5ZBsxsTGD'), alt=Binary('L7Wc5lMdYcfDtANq'),
dst="/91.218.112.118:17047")], [MsgCack], t = 531:
                        item, hl = false, o = commit-reply, d = ►
Commit stage complete., t = 532:
                        item, hl = false, o = complete, d = All ►
done., t = 532:
```

```
Ndns::Client: Booked "testname.mykeenetic.kz".
```

**History**

| Version | Description |
|---------|-------------|
| 2.07 | The **ndns book-name** command has been introduced. |

# 3.46.2 ndns check-name

**Description**          Check the availability of hostname for allocation.

**Prefix no**            No

**Change settings**      No

**Multiple input**       No

**Synopsis**

| (ndns)>     **check-name** ‹*name*›

**Arguments**

| Argument | Value | Description |
|----------|-------|-------------|
| name | *String* | The hostname for allocation. |

**Example**

```
(ndns)> check-name testname

        list:
            item:
                  name: testname
                domain: mykeenetic.by
              available: no

             item:
                  name: testname
                domain: mykeenetic.kz
              available: yes

             item:
                  name: testname
                domain: mykeenetic.ru
              available: yes

             item:
                  name: testname
                domain: mykeenetic.com
              available: yes

             item:
                  name: testname
                domain: mykeenetic.net
              available: yes
```

```
Ndns::Client: Check completed.
```

**History**

| Version | Description |
|---------|-------------|
| 2.07 | The **ndns check-name** command has been introduced. |

## 3.46.3 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 | *String* | The hostname for dropping. |
| domain | *String* | Second-level domain. |

**Example**

```
(ndns)> drop-name testname mykeenetic.net

            done, title = NDSS::ndns/dropName (Delete DNS ►
Hostname Booking), code = 200,
icon = tick, hl = true, layout = message:
              client, geo = RU, ip = 81.200.27.56, format = ►
clean, date = 2016-09-
22T10:52:35.685Z, standalone = false:
              reason: The name is un-booked.

              detail, layout = list:
                  columns:
                      column, id = o, title = Operation:
                      column, id = d, title = Detail:
                      column, id = t, title = Time, variant = ►
period, scale = 1:

                  item, hl = false, o = start, d = ►
[TaskDropName, {"name":"testname",
"domain":"mykeenetic.net","license":"243992935221479"}], t = 0:
                  item, hl = false, o = lock-local, d = the ►
name is locked (for current
transaction), t = 1:
                  item, hl = false, o = cluster, d = ►
quorumRemaining: 2, quorumPossible: 4,
quorumTotal: 4, t = 1:
```

```
                          item, hl = false, o = lock-reply, d = ►
Success: prepare, [NDSS
(key=Binary('vNEqUcIAWtrIaC50'), alt=Binary('L2hVqanJmGJrzvKh'),
dst="/148.251.63.154:17047")], [MsgCack], quorumLeft=2, t = 55:
                          item, hl = false, o = lock-reply, d = ►
Success: prepare, [NDSS
(key=Binary('yp/ghaehxe5EtXyc'), alt=Binary('t+JluEWuGguJ+28h'),
dst="/46.105.148.81:17047")], [MsgCack], quorumLeft=1, t = 72:
                          item, hl = false, o = lock-reply, d = Quorum ►
reached, finalizing, t = 73:
                            item, hl = false, o = finalize, d = local ►
changes commited., t = 79:
                          item, hl = false, o = refreshed, d = address ►
cleared, t = 85:
                            item, hl = false, o = finalize, d = ►
post-process triggers executed., t = 85:
                            item, hl = false, o = commit-reply, d = ►
Success: finalize, [NDSS
(key=Binary('vNEqUcIAWtrIaC50'), alt=Binary('L2hVqanJmGJrzvKh'),
dst="/148.251.63.154:17047")], [MsgCack], t = 134:
                            item, hl = false, o = commit-reply, d = ►
Success: finalize, [NDSS
(key=Binary('yp/ghaehxe5EtXyc'), alt=Binary('t+JluEWuGguJ+28h'),
dst="/46.105.148.81:17047")], [MsgCack], t = 161:
                            item, hl = false, o = lock-reply, d = ►
Success: prepare, [NDSS
(key=Binary('SyptNue2bys/mxi0'), alt=Binary('yPrQwfa/4yn676wk'),
dst="/148.251.129.152:17047")], [MsgCack], quorumLeft=0, t = 231:
                            item, hl = false, o = commit-reply, d = ►
Success: finalize, [NDSS
(key=Binary('SyptNue2bys/mxi0'), alt=Binary('yPrQwfa/4yn676wk'),
dst="/148.251.129.152:17047")], [MsgCack], t = 235:
                            item, hl = false, o = commit-reply, d = ►
Success: finalize, [NDSS
(key=Binary('pLNIsTXD+OP4D9Fc'), alt=Binary('kGImY2U/LublZ/Zr'),
dst="/91.218.112.118:17047")], [MsgCack], t = 3608:
                            item, hl = false, o = commit-reply, d = ►
Commit stage complete., t = 3608:
                            item, hl = false, o = complete, d = All ►
done., t = 3608:

Ndns::Client: Dropped "testname.mykeenetic.net".
```

**History**

| Version | Description |
|---------|-------------|
| 2.07 | The **ndns drop-name** command has been introduced. |

## 3.46.4 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 = RU, ip = 41.189.34.56, format = ►
xml, date = 2017-09-
14T08:30:19.266Z, standalone = false:
                    menu, src = ►
/index?__auth=force&__role=context-
menu&ref=%2fndns%2fupdateBooking:

                fields:
                    field, name = name, title = Public Name:

                    field, name = domain, title = Domain Name:

                    field, name = address, title = IP Address:

                  field, name = updated, title = Updated, type ►
= date, variant = date:

                    field, name = access, title = Access Mode, ►
default = unknown:

                    field, name = transfer, title = Transfer:

              name: testname
            domain: mykeenetic.com
           address: 41.189.34.56
           updated: 2017-09-11T11:27:32.167Z
            access: direct
          transfer: false


Ndns::Client: Get-booked completed.
```

**History**

| Version | Description |
| --- | --- |
| 2.08 | The **ndns get-booked** command has been introduced. |

## 3.46.5 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* ]

**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 Keenetic Lite. |
| | direct | Hostname is registered on the Keenetic Lite WAN-address. |

**Example**

```
(ndns)> get-update auto

            done, layout = view, title = ►
NDSS::ndns/updateBooking (Update Name Booking
Address and Expiration):
              client, geo = RU, ip = 81.200.27.56, format = ►
xml, date = 2016-09-
22T12:07:32.746Z, standalone = false:
                    menu, src = ►
/index?__auth=force&__role=context-
menu&ref=%2fndns%2fupdateBooking:

              fields:
                    field, name = name, title = Public Name:
                    field, name = domain, title = Domain Name:
                    field, name = address, title = IP Address:
                  field, name = updated, title = Updated, type ►
= date, variant = date:
                    field, name = access, title = Access Mode, ►
default = unknown:
                    field, name = transfer, title = Transfer:

                name: testname
              domain: mykeenetic.net
             address: 81.200.27.56
             updated: 2016-09-22T12:07:32.744Z
              access: direct
            transfer: false

Ndns::Client: Get-update completed.
```

**History**

| Version | Description |
| --- | --- |
| 2.07 | The **ndns get-update** command has been introduced. |

# 3.47 ntce shaping

| | |
|---|---|
| **Description** | Enable traffic shaping for hosts with torrents. This means speed reduction for torrent downloading clients in case of bandwidth overloading. Shaping only works when the *NTCE* service is enabled (see service ntce command). By default, the setting is enabled.<br><br>Command with **no** prefix disables setting. |
| **Prefix no** | Yes |
| **Change settings** | Yes |
| **Multiple input** | No |

**Synopsis**

> (config)>   `ntce shaping`

> (config)> **no ntce shaping**

**Example**

```
(config)> ntce shaping
Ntce::Manager: Shaping enabled.
```

**History**

| Version | Description |
|---|---|
| 2.09 | The **ntce shaping** command has been introduced. Previous command name is **dpi shaping**. |

# 3.48 ntp

| | |
|---|---|
| **Description** | Access to configure *NTP*-client.<br><br>Command with **no** prefix resets *NTP*-client configuration to default. |
| **Prefix no** | Yes |
| **Change settings** | No |
| **Multiple input** | No |

**Synopsis**

> (config)>   `ntp`

> (config)> **no ntp**

**History**

| Version | Description |
|---|---|
| 2.00 | The **ntp** command has been introduced. |

## 3.49 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** ‹*host*›

> (config)> **no ntp server** [ *host* ]

**Arguments**

| Argument | Value | Description |
|---|---|---|
| host | *String* | Host of *NTP*-server. |

**Example**
```
(config)> ntp server 2.ru.pool.ntp.org
server "2.ru.pool.ntp.org" has been added.
```

**History**

| Version | Description |
|---|---|
| 2.00 | The **ntp server** command has been introduced. |

## 3.50 ntp sync-period

**Description**    Set a period for time sinchronization. By default, 1 week is used.

Command with **no** prefix resets time sinchronization to default.

**Prefix no**    Yes

**Change settings**    Yes

**Multiple input**    No

**Synopsis**

> (config)>    **ntp sync-period** ‹*time*›

> (config)> **no ntp sync-period**

**Arguments**

| Argument | Value | Description |
|---|---|---|
| time | *Integer* | Time sinchronization, in minutes. Can take values from 60 minutes to 1 month. |

| Example | ```
(config)> ntp sync-period 365
a synchronization period set to 365 minutes.
``` |
|---------|---|

**History**

| Version | Description |
|---------|-------------|
| 2.00 | The **ntp sync-period** command has been introduced. |

# 3.51 opkg chroot

**Description**

Enable chroot for *opkg*. If enabled, root directory is changed to `/opt` before executing any opkg script.

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

**Prefix no**     Yes

**Change settings**     Yes

**Multiple input**     No

**Synopsis**

> (config)>    **opkg chroot**

> (config)> **no opkg chroot**

**Example**

```
(config)> opkg chroot
Opkg::Manager: Chroot enabled.
(config)> no opkg chroot
Opkg::Manager: Chroot disabled.
```

**History**

| Version | Description |
|---------|-------------|
| 2.05.C.3 | The **opkg chroot** command has been introduced. |

# 3.52 opkg disk

**Description**

Configure partition for *opkg* software. This setting is required to install and run *opkg*.

Once configured, the partition will be mounted to `/opt` using **mount --bind**, and the **initrc** script executed immediately, see also Section 3.54 on page 202.

If `/opt/install` directory is not empty, all contained `*.ipk` and `*.tgz` archives are unpacked to `/opt` before running `initrc`. Archives are deleted after installation.

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

**Prefix no**     Yes

| **Change settings** | Yes |
| --- | --- |
| **Multiple input** | No |

**Synopsis**

> (config)>    **opkg disk** ‹*disk*›

> (config)> **no opkg disk**

**Arguments**

| Argument | Value | Description |
| --- | --- | --- |
| disk | *String* | Partition label or UUID. |

**Example**

```
(config)> opkg disk 681ED0631ED02C36
Opkg::Manager: Disk is set to: 681ED0631ED02C36.
(config)> no opkg disk
Opkg::Manager: Disk is unset.
```

**History**

| Version | Description |
| --- | --- |
| 2.05.C.3 | The **opkg disk** command has been introduced. |

# 3.53 opkg dns-override

**Description**

Disable DNS proxy when *opkg* disk is mounted.

DNS override allows to replace embedded DNS proxy with a custom service, such as BIND or Dnsmasq.

Command with **no** prefix disables DNS override.

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

**Synopsis**

> (config)>    **opkg dns-override**

> (config)> **no opkg dns-override**

**Example**

```
(config)> opkg dns-override
Opkg::Manager: DNS override enabled.
(config)> no opkg dns-override
Opkg::Manager: DNS override disabled.
```

**History**

| Version | Description |
| --- | --- |
| 2.05.C.3 | The **opkg dns-override** command has been introduced. |

# 3.54 opkg initrc

| | |
|---|---|
| **Description** | Set initial script. Default value — `/opt/etc/initrc`. |
| | When the opkg disk is mounted, and the packages are installed, the system will execute the initial script. If *path* is a directory, the system will execute all contained scripts in alphabetic order. |
| | Command with **no** prefix resets `initrc` to default. |
| **Prefix no** | Yes |
| **Change settings** | Yes |
| **Multiple input** | No |

**Synopsis**

> (config)>    **opkg initrc** *‹path›*

> (config)> **no opkg initrc**

**Arguments**

| Argument | Value | Description |
|---|---|---|
| path | *Filename* | Initial script file or directory. |

**Example**

```
(config)> opkg initrc /opt/etc/init.d/rc.unslung
Opkg::Manager: Configured init script: ▶
"/opt/etc/init.d/rc.unslung".
(config)> no opkg initrc
Opkg::Manager: Init script reset to default: /opt/etc/initrc.
```

**History**

| Version | Description |
|---|---|
| 2.05.C.3 | The **opkg initrc** command has been introduced. |

# 3.55 opkg timezone

| | |
|---|---|
| **Description** | Configure TZ environment variable and `/opt/var/TZ` file for *opkg* software. Default — timezone is undefined. |
| | It depends on the *opkg* C library, how timezone is interpreted. The value of TZ can be either a POSIX timezone specification in the form `stdoffset[dst[offset][,start[/time],end[/time]]]`, or the name of a zoneinfo-binary-format timezone file (the form used by glibc and almost all GNU systems). |
| | Command with **no** prefix resets timezone to undefined. |
| **Prefix no** | Yes |
| **Change settings** | Yes |

| **Multiple input** | No |

| **Synopsis** | (config)> **opkg timezone** (**auto** \| ‹*timezone*›) |
| | (config)> **no opkg timezone** |

**Arguments**

| Argument | Value | Description |
|---|---|---|
| timezone | *String* | Timezone specification to be assigned to the TZ environment variable and written to /opt/var/TZ. |
| auto | Keyword | Automatic timezone assignment. Specification is generated from system wide settings, see Section 3.78.3 on page 260. |

**Example**

```
(config)> opkg timezone auto
Opkg::Manager: Enabled automatic timezone.
(config)> opkg timezone UTC
Opkg::Manager: Enabled timezone "UTC".
(config)> no opkg timezone
Opkg::Manager: Timezone reset to undefined.
```

**History**

| Version | Description |
|---|---|
| 2.05.C.3 | The **opkg timezone** command has been introduced. |

# 3.56 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 | *String* | Profile name. You can see the list of available profiles with help of **ping-check profile ?** command. |

**History**

| Version | Description |
|---------|-------------|
| 2.04 | The **ping-check profile** command has been introduced. |

# 3.56.1 ping-check profile host

**Description** Assign host name or host address for testing.

**Prefix no** No

**Change settings** Yes

**Multiple input** No

**Synopsis** | (config-pchk)>    **host** ‹*hostname*›

**Arguments**

| Argument | Value | Description |
|----------|-------|-------------|
| hostname | *Host name* | Name or address of remote host. |

**Example** (config-pchk)> **host 8.8.8.8**
PingCheck::Profile: profile "TEST" uses host 8.8.8.8 for testing.

**History**

| Version | Description |
|---------|-------------|
| 2.04 | The **ping-check profile host** command has been introduced. |

# 3.56.2 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 to default.

**Prefix no** Yes

**Change settings** Yes

**Multiple input** No

**Synopsis** | (config-pchk)>    **max-fails** ‹*count*›

| (config-pchk)> **no max-fails**

**Arguments**

| Argument | Value | Description |
|----------|-------|-------------|
| count | *Integer* | Amount of failed requests. Can take values from 1 to 10 inclusively. |

**Example**

```
(config-pchk)> max-fails 7
PingCheck::Profile: profile "TEST" uses 7 fail count for ►
disabling interface.
```

**History**

| Version | Description |
|---------|-------------|
| 2.04 | The **ping-check profile max-fails** command has been introduced. |

## 3.56.3 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 1 is used.

Command with **no** prefix resets 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 | *Integer* | Amount of success requests. Can take values from 1 to 10 inclusively. |

**Example**

```
(config-pchk)> min-success 3
PingCheck::Profile: profile "123" uses 3 success count for ►
enabling interface.
```

**History**

| Version | Description |
|---------|-------------|
| 2.04 | The **ping-check profile min-success** command has been introduced. |

# 3.56.4 ping-check profile mode

| | |
|---|---|
| **Description** | Set *Ping Check* mode. By default, `icmp` value is used. |
| | Command with **no** prefix resets to default. |
| **Prefix no** | Yes |
| **Change settings** | Yes |
| **Multiple input** | No |
| **Synopsis** | (config-pchk)> **mode** ‹*mode*› |
| | (config-pchk)> **no 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. |

**Example**

```
(config-pchk)> mode connect
PingCheck::Profile: profile "TEST" uses connect mode.
```

**History**

| Version | Description |
|---|---|
| 2.04 | The **ping-check profile mode** command has been introduced. |

# 3.56.5 ping-check profile port

| | |
|---|---|
| **Description** | Specify port for connection to the remote host. Setting has a meaning for connect mode of *Ping Check* (**ping-check mode** command). |
| **Prefix no** | No |
| **Change settings** | Yes |
| **Multiple input** | No |
| **Synopsis** | (config-pchk)> **port** ‹*number*› |

**Arguments**

| Argument | Value | Description |
|---|---|---|
| number | *Integer* | Port number. |

**Example**

```
(config-pchk)> port 80
PingCheck::Profile: profile "TEST" uses port 80 for testing.
```

**History**

| Version | Description |
|---------|-------------|
| 2.04 | The **ping-check profile port** command has been introduced. |

## 3.56.6 ping-check profile power-cycle

**Description**     Enable power-cycle for USB network interface. Enabled by default.

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

**Prefix no**     Yes

**Change settings**     Yes

**Multiple input**     No

**Synopsis**

| (config-pchk)>   **power-cycle**

| (config-pchk)> **no power-cycle**

**Example**

```
(config-pchk)> power-cycle
PingCheck::Profile: profile "123" enable usb power cycle.
```

**History**

| Version | Description |
|---------|-------------|
| 2.04 | The **ping-check profile power-cycle** command has been introduced. |

## 3.56.7 ping-check profile restart-interface

**Description**     Enable restarting interface if internet is not available. Disabled by default.

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

**Prefix no**     Yes

**Change settings**     Yes

**Multiple input**     No

**Synopsis**

| (config-pchk)>   **restart-interface**

| (config-pchk)> **no restart-interface**

**Example**

```
(config-pchk)> restart-interface
PingCheck::Profile: Profile "test" enabled restarting interface.
```

**History**

| Version | Description |
|---------|-------------|
| 2.05 | The **ping-check profile restart-interface** command has been introduced. |

## 3.56.8 ping-check profile timeout

**Description**  Set the maximum response time of the remote host for a single request in seconds. By default, 1 value is used.

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

**Prefix no**  Yes

**Change settings**  Yes

**Multiple input**  No

**Synopsis**  (config-pchk)>  **timeout** ‹*time*›

(config-pchk)> **no timeout**

**Arguments**

| Argument | Value | Description |
|----------|-------|-------------|
| time | *Integer* | Response time in seconds. Can take values from 1 to 10 inclusively. |

**Example**
```
(config-pchk)> timeout 4
PingCheck::Profile: profile "TEST" timeout is changed to 4 ►
seconds.
```

**History**

| Version | Description |
|---------|-------------|
| 2.04 | The **ping-check profile timeout** command has been introduced. |

## 3.56.9 ping-check profile update-interval

**Description**  Set periodicity of *Ping Check* performing in seconds.

**Prefix no**  No

**Change settings**  Yes

**Multiple input**  No

**Synopsis**  (config-pchk)>  **update-interval** ‹*time*›

| **Arguments** | Argument | Value | Description |
|---|---|---|---|
| | time | *Integer* | Refresh period in seconds. Can take values from 3 to 3600 inclusively. |

**Example**

```
(config-pchk)> update-interval 60
PingCheck::Profile: profile "TEST" interval is changed to 60 ►
seconds.
```

| **History** | Version | Description |
|---|---|---|
| | 2.04 | The **ping-check profile update-interval** command has been introduced. |

## 3.57 ppe

**Description**  Enable Packet Processing Engine. By default, the setting is turned on.

Command with **no** prefix disables specified accelerator.

**Prefix no**  Yes

**Change settings**  Yes

**Multiple input**  No

**Synopsis**  | (config)>  **ppe** ‹*engine*›

| (config)> **no ppe** [*engine*]

| **Arguments** | Argument | Value | Description |
|---|---|---|---|
| | engine | software | Software accelerator. |

**Example**

```
(config)> ppe software
Network::Interface::Rtx::Ppe: Software PPE enabled.
```

| **History** | Version | Description |
|---|---|---|
| | 2.00 | The **ppe** command has been introduced. |
| | 2.05 | Argument engine was implemented. |

## 3.58 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** ‹*from*› ‹*to*›

> (config)> **no pppoe pass through**

**Arguments**

| Argument | Value | Description |
|---|---|---|
| from | *Interface name* | The starting interface. |
| to | *Interface name* | The finishing interface. |

**Example**

```
(config)> pppoe pass through Home ISP
PPPoE pass-through enabled.
```

**History**

| Version | Description |
|---|---|
| 2.00 | The **pppoe pass** command has been introduced. |

# 3.59 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 | *String* | A schedule name. |

| **History** | Version | Description |
|---|---|---|
| | 2.06 | The **schedule** command has been introduced. |

## 3.59.1 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 | *Integer* | The minutes. |
| hour | *Integer* | The hours. |
| dow | *Integer* | Days of the week, separated by commas. 0 and 7 mean Sunday. * means daily. |

**Example**
```
(config-sched)> action start 0 9 1,2,3,4,5
Core::Schedule::Manager: Updated schedule "WIFI".
```

**History**

| Version | Description |
|---|---|
| 2.06 | The **schedule action** command has been introduced. |

## 3.59.2 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 | *String* | 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 **schedule description** command has been introduced. |

# 3.60 service cloud-control

**Description**

Enable Cloud Control service. The service needs an active Internet connection to allow correct launch.

Command with **no** prefix stops the service.

**Prefix no**    Yes

**Change settings**    Yes

**Multiple input**    No

**Synopsis**

(config)>   **service cloud-control**

(config)> **no service cloud-control**

**Example**

```
(config)> service cloud-control
CloudControl::Agent: The cloud control service enabled.
```

**History**

| Version | Description |
|---|---|
| 2.05 | The **service cloud-control** command has been introduced. |

# 3.61 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`**<br>`service enabled.` |

| **History** | **Version** | **Description** |
| --- | --- | --- |
| | 2.00 | The **service dhcp** command has been introduced. |

# 3.62 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.<br><br>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`**<br>`service enabled.` |

| **History** | **Version** | **Description** |
| --- | --- | --- |
| | 2.00 | The **service dhcp-relay** command has been introduced. |

# 3.63 service dns-proxy

| **Description** | Enable DNS-proxy. To configure the parameters of the service, use Section 3.14 on page 71 group of commands. |

| **Prefix no** | No |

| Change settings | Yes |
|---|---|
| Multiple input | No |

| Synopsis | (config)>   `service dns-proxy` |
|---|---|

| Example | (config)> **service dns-proxy**<br>Dns::Manager: DNS proxy enabled. |
|---|---|

| History | Version | Description |
|---|---|---|
| | 2.00 | The **service dns-proxy** command has been introduced. |

# 3.64 service http

| Description | Enable HTTP-server that provides the user with Web-interface to configure Keenetic Lite.<br><br>Command with **no** prefix stops the service. |
|---|---|
| Prefix no | Yes |
| Change settings | Yes |
| Multiple input | No |

| Synopsis | (config)>   `service http`<br><br>(config)> **no service http** |
|---|---|

| Example | (config)> **service http**<br>HTTP server enabled. |
|---|---|

| History | Version | Description |
|---|---|---|
| | 2.00 | The **service http** command has been introduced. |

# 3.65 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.<br><br>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**<br>IGMP proxy enabled. |
|---|---|

| History | Version | Description |
|---|---|---|
| | 2.00 | The **service igmp-proxy** command has been introduced. |

# 3.66 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**<br>IpSec::Manager: Service enabled. |
|---|---|

| History | Version | Description |
|---|---|---|
| | 2.06 | The **service ipsec** command has been introduced. |

# 3.67 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**<br>Ntce::Manager: Enabled. |
|---|---|

| History | Version | Description |
|---|---|---|
|  | 2.09 | The **service ntce** command has been introduced. Previous command name is **service dpi**. |

# 3.68 service ntp-client

| Description | Enable *NTP*-client. |
|---|---|
|  | Command with **no** prefix stops the service. |
| **Prefix no** | Yes |
| **Change settings** | Yes |
| **Multiple input** | No |

| Synopsis | (config)>    **service ntp-client** |
|---|---|
|  | (config)> **no service ntp-client** |

| Example | (config)> **service ntp-client**<br>NTP client enabled. |
|---|---|

| History | Version | Description |
|---|---|---|
|  | 2.00 | The **service ntp-client** command has been introduced. |

# 3.69 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** |
| | Snmp::Manager: SNMP service was disabled. |

**History**

| Version | Description |
|---|---|
| 2.08 | The **service snmp** command has been introduced. |

# 3.70 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 **service telnet** command has been introduced. |

# 3.71 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 **service udpxy** command has been introduced. |

# 3.72 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 **service upnp** command has been introduced. |

# 3.73 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
Core::Configurator: done.
```

| | Version | Description |
|---|---|---|
| **History** | 2.04 | The **service vpn-server** command has been introduced. |

# 3.74 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**

| | Version | Description |
|---|---|---|
| **History** | 2.00 | The **show** command has been introduced. |

# 3.74.1 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 | *String* | An access point name. You can see the list of available access points with help of **associations ?** command. |

**Example**

```
(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 **show associations** command has been introduced. |

## 3.74.2 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 **show clock date** command has been introduced. |

## 3.74.3 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
   ...
   ...
   ...
```

| | Version | Description |
|---|---|---|
| **History** | 2.00 | The **show clock timezone-list** command has been introduced. |

## 3.74.4 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 | *String* | Name of selected *IKE* 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 **show crypto ike key** command has been introduced. |

## 3.74.5 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 | *String* | 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 **show crypto map** command has been introduced. |

## 3.74.6 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 | *Interface name* | An Ethernet interface name. You can see the list of available Ethernet interfaces with help of **dot1x ?** command. |

**Example**           (config)> **show dot1x ISP**

```
        dot1x:
               id: FastEthernet0/Vlan2
            state: CONNECTING

Core::Configurator: done.
```

| History | Version | Description |
|---------|---------|-------------|
|         | 2.02    | The **show dot1x** command has been introduced. |

## 3.74.7 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 **show drivers** command has been introduced. |

# 3.74.8 show interface

| | |
|---|---|
| **Description** | Show information of specified interface. If you use no argument, the entire list of all network interfaces will be displayed. |
| **Prefix no** | No |
| **Change settings** | No |
| **Multiple input** | No |
| **Interface type** | IP |
| **Synopsis** | (show)> **interface** *‹name›* |

**Arguments**

| Argument | Value | Description |
|---|---|---|
| name | *Interface name* | 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 FastEthernet0/Vlan1 switch it shows current state of physical ports, speed and duplex, on top of general information.

```
(config)> show interface FastEthernet0/Vlan1

        index: 0
         type: Switch
  description:
        state: up
         link: up
         port, index = 1:
             link: up
            speed: 100M
           duplex: full
         port, index = 2:
             link: down
            speed:
           duplex:
         port, index = 3:
             link: down
            speed:
           duplex:
         port, index = 4:
             link: down
            speed:
           duplex:
         port, index = 5:
             link: up
```

```
                        speed: 100M
                        duplex: full
```

**History**

| Version | Description |
|---------|-------------|
| 2.00 | The **show interface** command has been introduced. |

# 3.74.9 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 | *Interface name* | Full name or an alias of the interface to display. |

**Output**

| Element | Value |
|---------|-------|
| members | Root node. |
| interface | Interface name. |
| 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 **show interface bridge** command has been introduced. |

# 3.74.10 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 | *Interface name* | 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. |
| vhc-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 **show interface channels** command has been introduced. |

## 3.74.11 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 | *Interface name* | 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 **show interface country-codes** command has been introduced. |

## 3.74.12 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 | *Interface name* | Full name or an alias of the interface to display. |

**Example**

```
(show)> interface FastEthernet0 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 **show interface mac** command has been introduced. |

# 3.74.13 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 | *Interface name* | 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 **show interface rf e2p** command has been introduced. |

# 3.74.14 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 | *Interface name* | 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 **show interface stat** command has been introduced. |

# 3.74.15 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 | *Interface name* | 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 **show interface wps pin** command has been introduced. |

## 3.74.16 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 | *Interface name* | Full name or an alias of the interface. |

**Output**

| Element | Value |
|---------|-------|
| wps | Root node. |
| configured | WPS is configured for Access Point. |
| auto-self-pin | Auto-self-pin mode state. |
| status | disabled<br><br>enabled<br><br>active |
| direction | send |

| Element | Value |
|---------|-------|
|  | receive |
| mode | pbc |
|  | self-pin |
|  | 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 **show interface wps status** command has been introduced. |

## 3.74.17 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 **show ip arp** command has been introduced. |

# 3.74.18 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 | *String* | 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 **show ip dhcp bindings** command has been introduced. |

# 3.74.19 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 | *String* | 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 **show ip dhcp pool** command has been introduced. |

## 3.74.20 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
```

| | Version | Description |
|---|---|---|
| **History** | 2.09 | The **show ip hotspot** command has been introduced. |

## 3.74.21 show ip name-server

**Description**          Show a list of current 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: 82.131.72.251
            domain:
            global: no
        server:
           address: 82.131.72.15
            domain:
            global: no
        server:
           address: 82.132.76.130
            domain: zydata.ru
            global: yes
```

| | Version | Description |
|---|---|---|
| **History** | 2.00 | The **show ip name-server** command has been introduced. |

## 3.74.22 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 | *Keyword* | Only the records with *TCP* type will be displayed. |

**Example**

```
(show)> ip nat
================================================================
Type | In  | Source          Port  Destination      Port    Packets
     | Out |
================================================================
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 **show ip nat** command has been introduced. |

## 3.74.23 show ip route

**Description**       Show the current routing table.

**Prefix no**        No

**Change settings**  No

**Multiple input**   No

**Synopsis**         (show)>    **ip route** [ **sort** ‹*criteria*› ‹*direction*› ]

**Arguments**

| Argument | Value | Description |
|---|---|---|
| direction | ascending | Routing table records are sorted in ascending order. |
| | descending | Routing table records are sorted in descending order. |

| Argument | Value | Description |
|---|---|---|
| criteria | interface | Sorting criteria is the interface name. |
| | gateway | Sorting criteria is the gateway address. |
| | destination | Sorting criteria is the destination address. |

**Example**

```
(show)> ip route sort destination ascending
===============================================================
Destination          Gateway          Interface      Metric
===============================================================
0.0.0.0/0            82.138.7.129     ISP            0
10.1.30.0/24         0.0.0.0          GuestWiFi      0
82.138.7.27/32       0.0.0.0          PPTP0          0
82.138.7.32/32       0.0.0.0          PPTP0          0
82.138.7.128/26      0.0.0.0          ISP            0
82.138.7.132/32      82.138.7.129     ISP            0
82.138.7.141/32      82.138.7.129     ISP            0
89.179.183.128/26    82.138.7.138     ISP            0
192.168.15.0/24      0.0.0.0          Home           0
```

**History**

| Version | Description |
|---|---|
| 2.00 | The **show ip route** command has been introduced. |

## 3.74.24 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 **show ipsec** command has been introduced. |

# 3.74.25 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 **show ipv6 addresses** command has been introduced. |

## 3.74.26 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 **show ipv6 prefixes** command has been introduced. |

# 3.74.27 show ipv6 routes

| | |
|---|---|
| **Description** | Show a list of current IPv6-routes. |
| **Prefix no** | No |
| **Change settings** | No |
| **Multiple input** | No |

**Synopsis**

```
(show)>   ipv6 routes
```

**Example**

```
(show)> ipv6 routes

       route_:
     destination: 2001:db8::/64
         gateway: ::
       interface: Home
       route_:
     destination: fd3c:4268:1559::/64
         gateway: ::
       interface: Home
       route_:
     destination: fd01:db8:43::/64
         gateway: ::
       interface: Home
```

**History**

| Version | Description |
|---|---|
| 2.00 | The **show ipv6 routes** command has been introduced. |

# 3.74.28 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 **show last-change** command has been introduced. |

## 3.74.29 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 | *Integer* | Limit for returned log items. |
| once | *Keyword* | 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 **show log** command has been introduced. |

# 3.74.30 show ndns

**Description**       Show KeenDNS parameters from the latest request to the server (see **ndns get-booked** and **ndns get-update** commands).

**Prefix no**        No

**Change settings**  No

**Multiple input**   No

**Synopsis**         | (show)>    **ndns**

**Example**

```
(show)> ndns

        name: testname
      booked: testname
      domain: mykeenetic.com
     address: 41.189.34.56
     updated: yes
      access: direct

         ttp:
         direct: yes
      interface: GigabitEthernet1
        address: 41.189.34.56
```

**History**

| Version | Description |
|---------|-------------|
| 2.07    | The **show ndns** command has been introduced. |

# 3.74.31 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 **show netfilter** command has been introduced. |

# 3.74.32 show ntce hosts

| | |
|---|---|
| **Description** | Show list of hosts, which *NTCE* service has found, their operating systems and the application lists on them. |
| **Prefix no** | No |
| **Change settings** | No |
| **Multiple input** | No |
| **Synopsis** | (show)>   `ntce hosts` |

**Example**

```
(show)> ntce hosts

        host:
                mac: 20:aa:4b:5c:09:0e
        class_name: unknown
        device_name: unknown

        flow_types:
                flow_type: skype
```

**History**

| Version | Description |
|---|---|
| 2.09 | The **show ntce hosts** command has been introduced. Previous command name is **show dpi hosts**. |

# 3.74.33 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.
❸ The indicator of the initial synchronization.
❹ Time is taken from NDSS server.
❺ 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 ❶
                server: 1.pool.ntp.org
              accurate: yes ❷
          synchronized: yes ❸
              ndsstime: no ❹
              usertime: no ❺
```

**History**

| Version | Description |
|---------|-------------|
| 2.00 | The **show ntp status** command has been introduced. |

# 3.74.34 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 | *String* | 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 **show ping-check** command has been introduced. |

# 3.74.35 show running-config

**Description**    Show current settings, that is file `system:running-config` conteins, just like command **more** does.

**Prefix no**    No

**Change settings**    No

**Multiple input**    No

**Synopsis**    | (show)>    **running-config**

**Example**
```
(show)> running-config
! $$$ Model: Keenetic Start
! $$$ Version: 2.06.1
! $$$ Agent: http/rci
! $$$ Last change: Fri, 12 Jan 2017 07:23:56 GMT
system
    set net.ipv4.ip_forward 1
    set net.ipv4.netfilter.ip_conntrack_max 4096
   set net.ipv4.netfilter.ip_conntrack_tcp_timeout_established ►
1200
    set net.ipv4.netfilter.ip_conntrack_udp_timeout 60
    set net.ipv4.tcp_fin_timeout 30
    set net.ipv4.tcp_keepalive_time 120
    set net.ipv6.conf.all.forwarding 1
    hostname Keenetic
    domainname WORKGROUP
!
ntp server 0.pool.ntp.org
ntp server 1.pool.ntp.org
ntp server 2.pool.ntp.org
ntp server 3.pool.ntp.org
access-list _WEBADMIN_GuestWiFi
    deny tcp 0.0.0.0 0.0.0.0 10.1.30.1 255.255.255.255
!
access-list _WEBADMIN_ISP
    permit tcp 0.0.0.0 0.0.0.0 192.168.15.200 255.255.255.255 ►
port eq 3389
    permit icmp 0.0.0.0 0.0.0.0 0.0.0.0 0.0.0.0
!
isolate-private
dyndns profile _ABCD
!
dyndns profile _WEBADMIN
    type dyndns
!
```

```
interface FastEthernet0
    up
!
interface FastEthernet0/0
    switchport mode access
    switchport access vlan 1
!
interface FastEthernet0/1
    switchport mode access
    switchport access vlan 1
!
interface Bridge0
    name Home
    description "Home network"
    inherit FastEthernet0/Vlan1
    include AccessPoint
    security-level private
    ip address 192.168.15.43 255.255.255.0
    up
!
interface WiMax0
    description Yota
    security-level public
    ip address auto
    ip global 400
    up
!
interface PPTP0
    description "Office VPN"
    peer crypton.zydata.ru
    lcp echo 30 3
    ipcp default-route
    ipcp name-servers
    ccp
    security-level public
    authentication identity "00441"
    authentication password 123456
    authentication mschap
    authentication mschap-v2
    encryption mppe
    ip tcp adjust-mss pmtu
    connect via ISP
    up
!
ip route 82.138.7.141 ISP auto
ip route 82.138.7.132 ISP auto
ip route 82.138.7.27 PPTP0 auto
ip dhcp pool _WEBADMIN
    range 192.168.15.200 192.168.15.219
    bind Home
!
ip dhcp pool _WEBADMIN_GUEST_AP
    range 10.1.30.33 10.1.30.52
    bind GuestWiFi
```

```
!
ip dhcp host A 00:01:02:03:04:05 1.1.1.1
ip dhcp host B 00:01:02:03:04:06 1.1.1.2
ip nat Home
ip nat GuestWiFi
ipv6 subnet Default
    bind Home
    number 0
    mode slaac
!
ipv6 local-prefix default
no ppe
upnp lan Home
torrent
    rpc-port 8090
    peer-port 51413
!
user admin
    password md5 2320924ba6e5c1fec3957e587a21535b
    tag cli
    tag cifs
    tag http
    tag ftp
!
user test
    password md5 baadfb946f5d516379cfd75e31e409d9
    tag readonly
!
service dhcp
service dns-proxy
service ftp
service cifs
service http
service telnet
service ntp-client
service upnp
cifs
    share 9430B54530B52EDC 9430B54530B52EDC:
    automount
    permissive
!
!
!
```

**History**

| Version | Description |
|---------|-------------|
| 2.00    | The **show running-config** command has been introduced. |

# 3.74.36 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 **show self-test** command has been introduced. |

# 3.74.37 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 | *Interface name* | Full name or an alias of the interface. You can see the list of available interfaces with help of **site-survey ?** command. |

**Example**

```
(show)> site-survey WifiStation0
======================================================
ESSID                    MAC              Ch   Rate      Q
======================================================
Gena                     00:23:f8:5b:d3:f5   11    300Mbit/s  100
Keenetic-2034            00:23:f8:5b:d3:f4   11    300Mbit/s  100
Sonar                    40:4a:03:b4:5d:18    4     54Mbit/s   34
```

**History**

| Version | Description |
|---|---|
| 2.00 | The **show site-survey** command has been introduced. |

# 3.74.38 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 **show system** command has been introduced. |

# 3.74.39 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: printers
        tag: cifs
        tag: http
```

```
           tag: ftp
           tag: torrent
```

**History**

| Version | Description |
|---------|-------------|
| 2.00 | The **show tags** command has been introduced. |

# 3.74.40 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 *TCP* protocol will be displayed. |
| | udp | Rules with *UDP* protocol will be displayed. |
| interface | *Interface name* | Rules with specified interface name will be displayed. |
| port | *Integer* | Rules with specified port will be displayed. |
| index | *Integer* | 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 **show upnp redirect** command has been introduced. |

# 3.74.41 show version

| | |
|---|---|
| **Description** | Show firmware version. |
| **Prefix no** | No |
| **Change settings** | No |
| **Multiple input** | No |

**Synopsis**

> (show)>    **version**

**Example**

```
(show)> version

        release: 2.10.C.1.0-0
           arch: mips

            ndm:
               exact: 0-d32118a
               cdate: 11 Dec 2017

            bsp:
               exact: 0-cbe0525
               cdate: 11 Dec 2017

            ndw:
            version: 4.2.3.92
           features: ►
wifi_button,flexible_menu,emulate_firmware_progress
         components: ►
ddns,dot1x,interface-extras,miniupnpd,nathelper-ftp,
                    ►
nathelper-pptp,nathelper-sip,ppe,trafficcontrol,
                    ►
cloudcontrol,base,components,corewireless,dhcpd,l2tp,
                    ►
igmp,easyconfig,pingcheck,ppp,pptp,pppoe,ydns

      manufacturer: Keenetic Ltd.
            vendor: Keenetic
            series: KN
             model: Start (KN-1110)
        hw_version: 10118000
             hw_id: KN-1110
            device: Start
             class: Internet Center
```

**History**

| Version | Description |
|---|---|
| 2.00 | The **show version** command has been introduced. |

## 3.74.42 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: printer
             uptime: 94

          statistic:
            rxpackets: 1627
              rxbytes: 276543
              rxerrors: 0
             rxdropped: 0
             txpackets: 1504
               txbytes: 652230
               txerrors: 0
             txdropped: 0

Core::Configurator: done.
```

**History**

| Version | Description |
|---|---|
| 2.04 | The **show vpn-server** command has been introduced. |

# 3.75 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 | *String* | 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 **snmp community** command has been introduced. |

## 3.76 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 | *String* | *SNMP* 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 **snmp contact** command has been introduced. |

## 3.77 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 | *String* | *SNMP* 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 **snmp location** command has been introduced. |

# 3.78 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 **system** command has been introduced. |

## 3.78.1 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*›

**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. |
| | WpsStartGuestAp | Start WPS for the Guest Wi-Fi (Guest Wi-Fi should be enabled). |
| | WpsStartMainAp | Start WPS (2.4GHz only). |

**Example**

(system)> **button WLAN on double-click do WifiGuestApToggle**
Peripheral::Manager: "WLAN/double-click" handler set.

**History**

| Version | Description |
|---|---|
| 2.03 | The **system button** command has been introduced. |

## 3.78.2 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 | *String* | 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 **system clock date** command has been introduced. |

## 3.78.3 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 | *String* | 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 **system clock timezone** command has been introduced. |

## 3.78.4 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**<br>Core::Configuration: the system configuration reset to factory ►<br>defaults. |
|---|---|

**History**

| Version | Description |
|---|---|
| 2.00 | The **system configuration factory-reset** command has been introduced. |

## 3.78.5 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**<br>Saving configuration. |
|---|---|

**History**

| Version | Description |
|---|---|
| 2.05.B.1 | The **system configuration save** command has been introduced. |

## 3.78.6 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 |
|---|---|

| **Synopsis** | (system)>   **debug** |
|---|---|

> (system)> **no debug**

**Example**

```
(system)> debug
Core::Debug: System debug enabled.
```

**History**

| Version | Description |
|---------|-------------|
| 2.03 | The **system debug** command has been introduced. |

## 3.78.7 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 | *String* | The domain name to assign. |

**Example**

```
(system)> domainname zydata
Domainname saved.
```

**History**

| Version | Description |
|---------|-------------|
| 2.00 | The **system domainname** command has been introduced. |

## 3.78.8 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 | *String* | Name of the host. |

**Example**

```
(system)> hostname odysseus
Hostname saved.
```

**History**

| Version | Description |
|---------|-------------|
| 2.00 | The **system hostname** command has been introduced. |

## 3.78.9 system led 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 shutdown** ‹*mode*› |
| (system)> **no led shutdown** |

**Arguments**

| Argument | Value | Description |
|----------|-------|-------------|
| mode | all | Shutdown all the LEDs. |

**Example**

```
(system)> led shutdown all
Peripheral::Manager: LED shutdown mode set to "all".
```

```
(system)> led no shutdown
Peripheral::Manager: LED shutdown mode reset.
```

**History**

| Version | Description |
|---------|-------------|
| 2.08 | The **system led shutdown** command has been introduced. |

# 3.78.10 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 **system log clear** command has been introduced. |

# 3.78.11 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**
> Core::Configurator: done.

**History**

| Version | Description |
|---|---|
| 2.04 | The **system log reduction** command has been introduced. |

# 3.78.12 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 | *IP-address* | Remote log server address. |
| port | *Integer* | 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 **system log server** command has been introduced. |

# 3.78.13 system log suppress

| **Description** | Add message suppression 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 | *String* | Process ID which messages need to suppress. |

**Example**

```
(system)> log suppress kernel
Syslog: added suppression "kernel".
```

**History**

| Version | Description |
|---|---|
| 2.04 | The **system log suppress** command has been introduced. |

# 3.78.14 system mode

| | |
|---|---|
| **Description** | Select system operating mode for Keenetic Lite. |
| **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 **system mode** command has been introduced. |

# 3.78.15 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 a scheduled reboot.

**Prefix no**    Yes

**Change settings**    No

| **Multiple input** | No |

**Synopsis**

> (system)> **reboot** [ *interval* ]

> (system)> **no reboot**

**Arguments**

| Argument | Value | Description |
|---|---|---|
| interval | *Integer* | Timeout for scheduled reboot. If not specified, the reboot will be executed immediately. |

**Example**

```
(system)> reboot 20
Rebooting in 20 seconds.
```

**History**

| Version | Description |
|---|---|
| 2.00 | The **system reboot** command has been introduced. |

## 3.78.16 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 | *String* | Identifier of the system parameter. |
| value | *String* | 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 **system set** command has been introduced. |

# 3.79 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 **tools** command has been introduced. |

# 3.79.1 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 | *IP-address* | IP-address of the respondent. |
| source-interface | *Interface name* | Name of source-interface. |
| count | *Integer* | Quantity of requests. If not specified, the command will run until interrupted by the user. |
| wait-time | *Integer* | 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 **tools arping** command has been introduced. |

## 3.79.2 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›* ] [ **size** *‹packetsize›* ]

**Arguments**

| Argument | Value | Description |
|---|---|---|
| host | *String* | Domain name or host IP-address. |

| Argument | Value | Description |
|---|---|---|
| count | *Integer* | Quantity of ICMP Echo requests. If not specified, the command will run until interrupted by the user. |
| packetsize | *Integer* | Size of the ICMP Echo-Request data field in bytes. By default — 56, which together with the 8-byte header specifies the size of the ICMP-pack — 64 bytes. |

**Example**

```
(tools)> ping 192.168.1.33 count 3 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.
```

**History**

| Version | Description |
|---|---|
| 2.00 | The **tools ping** command has been introduced. |

## 3.79.3 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*› ] [ **size** ‹*packetsize*› ]

**Arguments**

| Argument | Value | Description |
|---|---|---|
| host | *String* | Domain name or host IPv6-address. |

| Argument | Value | Description |
|----------|-------|-------------|
| count | *Integer* | Quantity of ICMPv6 Echo requests. If not specified, the command will run until interrupted by the user. |
| packetsize | *Integer* | Size of the ICMPv6 Echo-Request data field in bytes. By default — 56, which together with the 8-byte header specifies the size of the ICMPv6-pack — 64 bytes. |

**Example**

```
(tools)> ping6 fd4b:f12b:5d59:0:1108:4407:b772:20cd count 3 size ▸
100
Sending ICMPv6 ECHO request to ▸
fd4b:f12b:5d59:0:1108:4407:b772:20cd
PING fd4b:f12b:5d59:0:1108:4407:b772:20cd ▸
(fd4b:f12b:5d59:0:1108:4407:b772:20cd) 52 (60) bytes of data.
60 bytes from fd4b:f12b:5d59:0:1108:4407:b772:20cd ▸
(fd4b:f12b:5d59:0:1108:4407:b772:20cd): icmp_req=1, ttl=64, ▸
time=7.18 ms.
60 bytes from fd4b:f12b:5d59:0:1108:4407:b772:20cd ▸
(fd4b:f12b:5d59:0:1108:4407:b772:20cd): icmp_req=2, ttl=64, ▸
time=8.42 ms.
60 bytes from fd4b:f12b:5d59:0:1108:4407:b772:20cd ▸
(fd4b:f12b:5d59:0:1108:4407:b772:20cd): icmp_req=3, ttl=64, ▸
time=1.51 ms.
--- fd4b:f12b:5d59:0:1108:4407:b772:20cd ping statistics ---
3 packets transmitted, 3 packets received, 0% packet loss,
0 duplicate(s), time 2002.61 ms.
Round-trip min/avg/max = 1.51/5.70/8.42 ms.
Process terminated.
```

**History**

| Version | Description |
|---------|-------------|
| 2.00 | The **tools ping6** command has been introduced. |

## 3.79.4 tools pppoe-discovery

**Description**      Scan available PPPoE servers.

**Prefix no**      No

**Change settings**      No

**Multiple input**      No

**Synopsis**      (tools)>    **pppoe-discovery interface** ‹*source-interface*› [ **retry-count** ‹*count*› ] [ **wait-time** ‹*seconds*› ]

| **Arguments** | Argument | Value | Description |
|---|---|---|---|
| | source-interface | *Interface name* | Full interface name or an alias. |
| | count | *Integer* | The number of attempts. |
| | seconds | *Integer* | Request time in seconds. Can take values from 1 to 10. |

**Example**

```
(tools)> pppoe-discovery interface ISP retry-count 5 wait-time 9
Discovering PPPoE access concentrators on eth2.2...
AC name    : accel-ppp
HW address: aa:09:a0:11:64:44
    Service:
AC name    : accel-ppp
HW address: de:06:21:02:b3:e2
    Service:
process terminated
```

**History**

| Version | Description |
|---|---|
| 2.00 | The **tools pppoe-discovery** command has been introduced. |

## 3.79.5 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›*] [**packet-size** *‹packet-size›*]
      [**max-ttl** *‹max-ttl›*] [**port** *‹port›*] [**source-address** *‹source-address›*]
      [**source-interface** *‹source-interface›*] [**type** *‹type›*] [**tos** *‹tos›*]

| **Arguments** | Argument | Value | Description |
|---|---|---|---|
| | host | *String* | Name of the target host. |
| | count | *Integer* | Number of probe packets per hop. Default value — 3. Value must be in the range [1;10]. |
| | interval | *Integer* | Time in seconds between sending packets. Default value — 0. Value must be in the range [0;15]. |
| | wait-time | *Integer* | Time to wait for a response to a probe (in seconds). Default value |

| Argument | Value | Description |
|---|---|---|
| | | — 1. Value must be in the range [1;15]. |
| packet-size | *Integer* | 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 | *Integer* | Maximum number of hops (max time-to-live value) traceroute will probe. Default value — 30. Value must be in the range [1;255]. |
| port | *Integer* | 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 | *String* | Address of the outgoing interface. |
| source-interface | *String* | Interface to be used as the source interface in outgoing probe packets. |
| type | tcp | *TCP* protocol. |
| | udp | *UDP* protocol. Used by default. |
| | icmp | *ICMP* protocol. |
| tos | *Integer* | Type Of Service. Default value — 0. Value must be in the range [0;255] |

**Example**

```
(tools)> traceroute ya.ru count 5 interval 5
starting traceroute to ya.ru...
traceroute to ya.ru (213.180.193.3), 30 hops maximum, 60 byte ►
packets.
 1  192.168.111.1 (192.168.111.1)  0.958 ms  0.885 ms  2.946 ms ►
 11.275 ms  10.934 ms
 2  test1.ru (193.0.111.3)  9.125 ms  7.263 ms  5.352 ms  2.146 ►
ms  12.224 ms
 3  test2.ru (193.0.111.2)  11.610 ms  9.378 ms  7.236 ms  15.399 ►
ms  6.327 ms
 4  178.108.133.57 (178.108.133.57)  4.325 ms  20.235 ms  10.831 ►
ms  8.463 ms  7.232 ms
 5  iki-crs.comcor.ru (62.117.100.134)  5.153 ms  10.526 ms  ►
5.738 ms  3.137 ms  13.886 ms
 6  213.79.127.21 (213.79.127.21)  30.260 ms  2.883 ms *  27.922 ►
ms  3.487 ms
```

```
 7   * * * * *
 8  fol2-c4-ae8.yndx.net (87.250.239.80)  9.815 ms  8.340 ms ►
fol5-c2-ae7.yndx.net (87.250.239.84)  5.451 ms  3.637 ms  5.221 ms
 9  * fol5-c2-ae15.yndx.net (87.250.239.24)  2.990 ms *  19.063 ►
ms *
10  * * * www.yandex.ru (213.180.193.3)  2.017 ms *
process terminated
```

**History**

| Version | Description |
|---------|-------------|
| 2.00 | The **tools traceroute** command has been introduced. |

# 3.80 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 **udpxy** command has been introduced. |

# 3.80.1 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 | *Integer* | Buffer size in bytes. Can take values from 1 to 1048576. |

**Example**

```
(udpxy)> buffer-size 500
Udpxy::Manager: a buffer size set to 500 bytes.
```

**History**

| Version | Description |
|---------|-------------|
| 2.04 | The **udpxy buffer-size** command has been introduced. |

## 3.80.2 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 | *Integer* | Timeout value in seconds. Can take values 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 **udpxy buffer-timeout** command has been introduced. |

## 3.80.3 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 | *Interface name* | Full name or an alias of the interface. You can see the list of available interfaces with help of **interface ?** command. |

**Example**

(udpxy)> **interface ISP**
Udpxy::Manager: bound to FastEthernet0/Vlan2.

**History**

| Version | Description |
|---|---|
| 2.02 | The **udpxy interface** command has been introduced. |

## 3.80.4 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 | *Integer* | Port number. Can take values from 0 to 65535. |

**Example**

(udpxy)> **port 2323**
Udpxy::Manager: a port set to 2323.

**History**

| Version | Description |
|---|---|
| 2.03 | The **udpxy port** command has been introduced. |

# 3.80.5 udpxy renew-interval

| | |
|---|---|
| **Description** | Set renew interval of subscription to the multicast channel. By default, 0 value is used, ie 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 | *Integer* | Renew interval of subscription in seconds. Can take values from 0 to 3600. |

**Example**

```
(udpxy)> renew-interval 120
Udpxy::Manager: a renew subscription interval value set to 120 ►
sec.
```

**History**

| Version | Description |
|---|---|
| 2.03 | The **udpxy renew-interval** command has been introduced. |

# 3.80.6 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**

**Arguments**

| Argument | Value | Description |
|---|---|---|
| timeout | *Integer* | Timeout in seconds. Can take values from 5 to 60. |

| Example | `(udpxy)> timeout 10`<br>`Udpxy::Manager: a stream timeout set to 10 sec.` |
|---|---|

| History | Version | Description |
|---|---|---|
| | 2.03 | The **udpxy timeout** command has been introduced. |

# 3.81 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 *TCP* protocol will be added/deleted. |
| | udp | Rule for *UDP* protocol will be added/deleted. |
| interface | *Interface name* | Rule for specified interface name will be added. |
| address | *IP-address* | Rule for specified IP-address will be added/deleted. |
| port | *Integer* | Rule for specified port will be added/deleted. |
| index | *Integer* | Rule with specified number in the list will be removed. |

| History | Version | Description |
|---|---|---|
| | 2.00 | The **upnp forward** command has been introduced. |

# 3.82 upnp lan

| Description | Set LAN interface where the *UPnP*-service is running. |
|---|---|

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 | *Interface name* | Full name or an alias of the interface. You can see the list of available interfaces with help of **upnp lan ?** command. |

**Example**

```
(config)> upnp lan PPTP0
using LAN interface: PPTP0.
```

**History**

| Version | Description |
|---|---|
| 2.00 | The **upnp lan** command has been introduced. |

# 3.83 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 *TCP* protocol will be added/deleted. |

| Argument | Value | Description |
|---|---|---|
| | udp | Rule for *UDP* protocol will be added/deleted. |
| interface | *Interface name* | Rule for specified interface name will be added. |
| port | *Integer* | Rule for specified port will be added/deleted. |
| to-address | *IP-address* | Rule for specified destination address will be added. |
| to-port | *Integer* | Rule for specified destination port will be added. |
| and forward | *Keyword* | Lists of forwarding and redirecting rules will be cleared. |
| index | *Integer* | Rule with specified number in the list will be removed. |

**History**

| Version | Description |
|---|---|
| 2.00 | The **upnp redirect** command has been introduced. |

## 3.84 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 | *String* | Tne user name. |

**History**

| Version | Description |
|---------|-------------|
| 2.00 | The **user** command has been introduced. |

## 3.84.1 user password

**Description**    Set the user password. The password is stored as MD5-hash, computed from the "*user*:*realm*:*password*" string. *realm* is the device model name from `startup-config.txt` file.

The command takes open string or hash-function value as argument. Saved password is used for user authentication.

Command with **no** prefix resets the password so that the user loses access to the device. For the `admin` user prefix **no** resets the password to the factory settings — 1234.

**Prefix no**    Yes

**Change settings**    Yes

**Multiple input**    No

**Synopsis**    (config-user)>    **password** ( **md5** ‹*hash*› | ‹*password*› )

(config-user)> **no password**

**Arguments**

| Argument | Value | Description |
|----------|-------|-------------|
| hash | *String* | MD5-hash value. |
| password | *String* | Value of the password in open form, from which the hash value is calculated automatically. |

**Example**    
```
(config-user)> password 1111
Core::Authenticator: Password set has been changed for user ►
"test".
```

**History**

| Version | Description |
|---------|-------------|
| 2.00 | The **user password** command has been introduced. |

## 3.84.2 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.

Note:                           admin account cannot be tagged readonly or untagged
                                cli.

**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 command line interface. |
| | http | Access to the Web-interface. |
| | ftp | Connection to an integrated FTP-server. |
| | cifs | Connection to the Windows files and printers service. |
| | torrent | Access to the BitTorrent client GUI. |
| | readonly | Restrict commands that change the settings. |
| | vpn | Connection to an integrated VPN-server. |

**Example**
```
(config-user)> tag http
Core::Authenticator: User "test" tagged with "http".
```

**History**

| Version | Description |
|---------|-------------|
| 2.00 | The **user tag** command has been introduced. |

# 3.85 vpn-server

**Description**         Access to a group of commands to configure VPN-server parameters.

**Prefix no**          No

**Change settings**    No

**Multiple input**     No

| Group entry | (vpn-server) |
|---|---|

| Synopsis | | (config)>　**vpn-server** |
|---|---|

| History | Version | Description |
|---|---|---|
| | 2.04 | The **vpn-server** command has been introduced. |

## 3.85.1 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 name* | Full name or an alias of the interface. You can see the list of available interfaces with help of **interface ?** command. |

| **Example** | (vpn-server)> **interface FastEthernet0/Vlan1**<br>Core::Configurator: done. |
|---|---|

| History | Version | Description |
|---|---|---|
| | 2.04 | The **vpn-server interface** command has been introduced. |

## 3.85.2 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 | *Integer* | Interval between sending *LCP* echo, in seconds. If within the specified time interval there is no *LCP* echo request from the remote location, the same request will be sent there asking for response *LCP* reply. |
| count | *Integer* | The number of consecutive requests *LCP* echo sent, for which no response *LCP* reply was received. If count of *LCP* echo requests goes unanswered, the connection is terminated. |
| adaptive | *Keyword* | 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 **vpn-server lcp echo** command has been introduced. |

## 3.85.3 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 **vpn-server mppe** command has been introduced. |

## 3.85.4 vpn-server mppe-optional

**Description**       Enable *MPPE* encryption.

Command with **no** prefix disables encryption.

**Prefix no**         Yes

**Change settings**   Yes

**Multiple input**    No

**Synopsis**

> (vpn-server)>    **mppe-optional**

> (vpn-server)> **no mppe-optional**

**Example**

```
(vpn-server)> mppe-optional
Core::Configurator: done.
```

**History**

| Version | Description |
|---|---|
| 2.04 | The **vpn-server mppe-optional** command has been introduced. |

## 3.85.5 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 | *Integer* | *MRU* value. Can take values from 128 to 1500 inclusively. |

**Example**

```
(vpn-server)> mru 200
VpnServer::Manager: mru set to 200.
```

**History**

| Version | Description |
|---|---|
| 2.04 | The **vpn-server mru** command has been introduced. |

## 3.85.6 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 | *Integer* | *MTU* value. Can take values from 128 to 1500 inclusively. |

**Example**

```
(vpn-server)> mtu 200
VpnServer::Manager: mtu set to 200.
```

**History**

| Version | Description |
|---|---|
| 2.04 | The **vpn-server mtu** command has been introduced. |

## 3.85.7 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 **vpn-server multi-login** command has been introduced. |

## 3.85.8 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 | *IP-address* | Start address of pool. |
| size | *Integer* | Pool size. If not defined, size 10 is used. |

**Example**

```
(vpn-server)> pool-range 192.168.1.22 7
Core::Configurator: done.
```

**History**

| Version | Description |
|---------|-------------|
| 2.04 | The **vpn-server pool-range** command has been introduced. |

## 3.85.9 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*›<br><br>(vpn-server)> **no static-ip** ‹*name*› |

**Arguments**

| Argument | Value | Description |
|---|---|---|
| name | *String* | Username. |
| address | *IP-address* | IP-address to bind. |

**Example**

```
(vpn-server)> static-ip admin 192.168.1.22
Core::Configurator: done.
```

**History**

| Version | Description |
|---|---|
| 2.04 | The **vpn-server static-ip** command has been introduced. |

# 3.86 yandexdns

| | |
|---|---|
| **Description** | Access to a groupe of commands to configure *Yandex.DNS* profiles. |
| **Prefix no** | No |
| **Change settings** | No |
| **Multiple input** | No |
| **Group entry** | (yandexdns) |
| **Synopsis** | (config)>  **yandexdns** |

**History**

| Version | Description |
|---|---|
| 2.01 | The **yandexdns** command has been introduced. |

## 3.86.1 yandexdns assign

| | |
|---|---|
| **Description** | Assign types to the hosts. By default `safe` type is used for all hosts. `default` type can be assigned to a single host.<br><br>Command with **no** prefix resets setting to default. |
| **Prefix no** | Yes |

| **Change settings** | Yes |
| --- | --- |
| **Multiple input** | Yes |

| **Synopsis** | (yandexdns)> **assign** [ ‹*host*› ] ‹*type*› |
| --- | --- |
| | (yandexdns)> **no assign** [ ‹*host*› ] |

**Arguments**

| Argument | Value | Description |
| --- | --- | --- |
| host | *MAC-address* | Host to which type of filtering is applied. If not specified, the type is applied to all hosts. |
| type | default | No filtering used. |
| | safe | Protection against malicious and phishing websites. |
| | family | Access denied to malicious and phishing websites, as well as to resources for adults. |

**History**

| Version | Description |
| --- | --- |
| 2.01 | The **yandexdns assign** command has been introduced. |

## 3.86.2 yandexdns check-availability

| **Description** | Check availability of *Yandex.DNS* service. |
| --- | --- |
| **Prefix no** | No |
| **Change settings** | No |
| **Multiple input** | No |

| **Synopsis** | (yandexdns)> **check-availability** |
| --- | --- |

| **Example** | (yandexdns)> **check-availability**<br>available |
| --- | --- |

**History**

| Version | Description |
| --- | --- |
| 2.04 | The **yandexdns check-availability** command has been introduced. |

## 3.86.3 yandexdns enable

| **Description** | Enable *Yandex.DNS* service. |
| --- | --- |
| | Command with **no** prefix disables the service. |

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

**Synopsis**

> (yandexdns)>    **enable**

> (yandexdns)> **no enable**

**Example**

```
(yandexdns)>   enable
YandexDns::Client: Yandex DNS is enabled.
```

**History**

| Version | Description |
|---|---|
| 2.01 | The **yandexdns enable** command has been introduced. |

# Glossary

| | |
|---|---|
| Address and Control Field Compression | *LCP* 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. |
| Challenge-Handshake Authentication Protocol | widely used algorithm for authentication, which provides the transfer of indirect information about user password. CHAP provides better security than *Password Authentication Protocol*. |
| 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. |
| Compression Control Protocol | is used for establishing and configuring data compression algorithms over *PPP*. |
| Dead Peer Detection | is a method that network devices use to verify the current existence and availability of other peer devices. |
| 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 | 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: |

• *dynamic allocation*: 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.

• *automatic allocation*: 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.

• *static allocation*: The DHCP server allocates an IP address based on a table with MAC address/IP address pairs, which are manually filled 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).

Diffie-Hellman

is that part of the *IKE* 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 *IPsec* symmetrical keys are derived from this DH key shared between the peers, at no point are symmetric keys actually exchanged.

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.

Encapsulating Security Payload

is a member of the *IPsec* protocol suite. In IPsec it provides origin authenticity, integrity, and confidentiality protection of packets.

Fully Qualified Domain Name

is a domain name that specifies its exact location in the tree hierarchy of the *Domain Name System*. 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.

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. |
|---|---|
| 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. |
| 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 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 *Diffie–Hellman* key exchange algorithm to generate a shared secret key to encrypt further *IPsec* 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). |
| Internet Protocol Control Protocol | is a network control protocol for establishing and configuring Internet Protocol over a *Point-to-Point Protocol* (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 *Internet Protocol* (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 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 *Point-to-Point* (PPP) link. IPv6CP uses the same packet exchange mechanism as the *Link Control Protocol*. 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. |
| Link Control Protocol | establishes, configures, and tests data-link Internet connections in the *Point-to-Point Protocol* (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. |

LCP packets are divided into three classes:

- Link configuration packets used to establish and configure a link

- Link termination packets used to terminate a link

- Link maintenance packets used to manage and debug a link

| | |
|---|---|
| Microsoft Point-to-Point Encryption | encrypts data in *Point-to-Point Protocol* 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. |
| Maximum Receive Unit | is the maximum size (in bytes) of the frame, which can be received at the data link layer of communication protocol. |
| Maximum Segment Size | is a parameter of the options field of the *TCP* 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. |
| Maximum Transmission Unit | 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.

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 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 — also DPI, Deep Deep Packet Inspection

is a form of computer network packet filtering that examines the data part (and possibly also the header) of a packet as it passes an inspection point, searching for protocol non-compliance, viruses, spam, intrusions, or defined criteria to decide whether the packet may pass or if it needs to be routed to a different destination, or, for the purpose of collecting statistical information.

Deep Packet Inspection (and filtering) enables advanced network management, user service, and security functions as well as internet data mining, eavesdropping, and internet censorship. Although DPI technology has been used for Internet management for many years, some advocates of net neutrality fear that the technology may be used anticompetitively or to reduce the openness of the Internet.

Open Package — lightweight package management system. It is intended for use on embedded Linux devices and is used in this capacity in the OpenWrt[1] and Entware[2] projects. Opkg packages use the .ipk extension.

Password Authentication Protocol — is an authentication protocol that uses a password. PAP is used by *Point-to-Point Protocol* to validate users before allowing them access to the remote network. PAP transmits unencrypted ASCII passwords over the network and is therefore considered insecure.

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.

Point-to-Point Protocol — is a protocol used to establish a direct connection between two nodes. It can provide connection authentication, transmission encryption, and

---

[1] https://www.openwrt.org/
[2] https://github.com/Entware-ng/Entware-ng

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 *Internet Protocol Control Protocol* (IPCP) is used.

Preamble     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.

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.

Long preamble:

- PLCP with long preamble is transmitted at 1 Mbps regardless of transmit rate of data frames

- Total long preamble transfer time is a constant at 192 usec

- Compatible with legacy IEEE 802.11 systems running at 1 and 2 Mbps

Short preamble:

- Preamble is transmitted at 1 Mbps and header at 2 Mbps

- Total short preamble transfer time is a constant at 96 usec

- Not compatible with legacy IEEE 802.11 systems operating at 1 and 2 Mbps

Protocol Field Compression     is a method to negotiate the compression of the *PPP* Protocol field. By default, all implementations MUST transmit packets with two octet PPP Protocol fields.

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.

Shared key     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.

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.

Transmission Control Protocol

is a core protocol of the *Internet Protocol* suite. TCP provides reliable, ordered, and error-checked delivery of a stream of octets between applications running on hosts communicating over an IP network.

Tunnel Setup Protocol

is a networking control protocol used to negotiate IP tunnel setup parameters between a tunnel client host and a tunnel broker server, the tunnel end-points.

User Datagram Protocol

is a core protocol of the *Internet Protocol* 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.

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 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.

Wi-Fi Multimedia

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).

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.

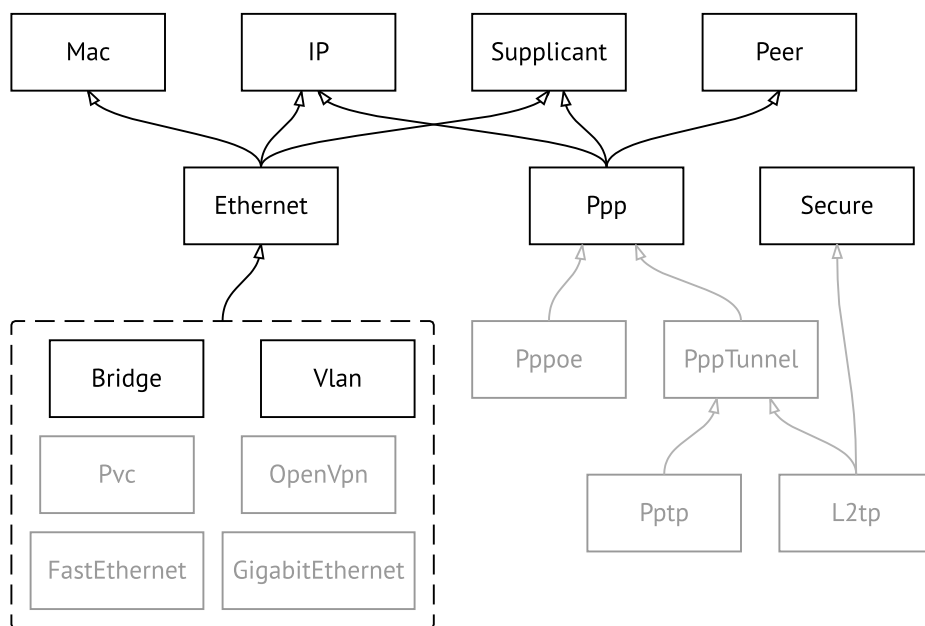| | |
|---|---|
| Wi-Fi Protected Access | and Wi-Fi Protected Access II (WPA2) are two security protocols and security certification programs developed by the Wi-Fi Alliance to secure wireless computer networks. The Alliance defined these in response to serious weaknesses researchers had found in the previous system, WEP. WPA advantages are enhanced data security and tightened access control for wireless networks. Important characteristic is the compatibility between multiple wireless devices at the hardware level as well as at software level. |
| 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. *WPA2*), the IEEE declared that both WEP-40 and WEP-104 have been deprecated. |
| Extended Authentication | or XAUTH, provides an additional level of authentication by allowing the *IPsec* gateway to request extended authentication from remote users, thus forcing remote users to respond with their credentials before being allowed access to the VPN. |
| Yandex.DNS | service of Yandex company to protect home network. Provides three filtering modes:<br><br>• no filtering: resources are not blocked<br><br>• safe mode: stops malicious and phishing websites<br><br>• family mode: stops malicious and phishing websites, as well as resources for adults |

# A

# Interface Hierarchy

**Figure A.1. Core interfaces**
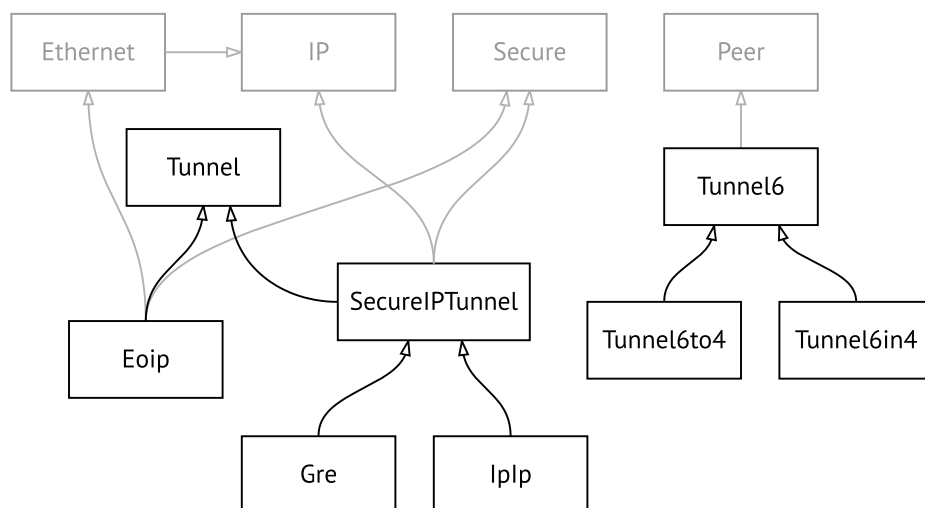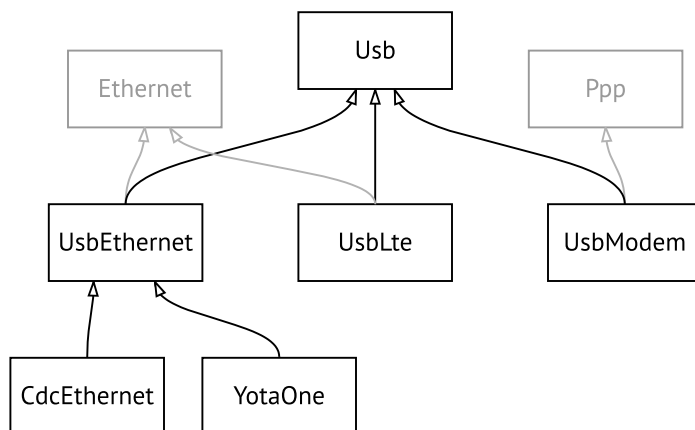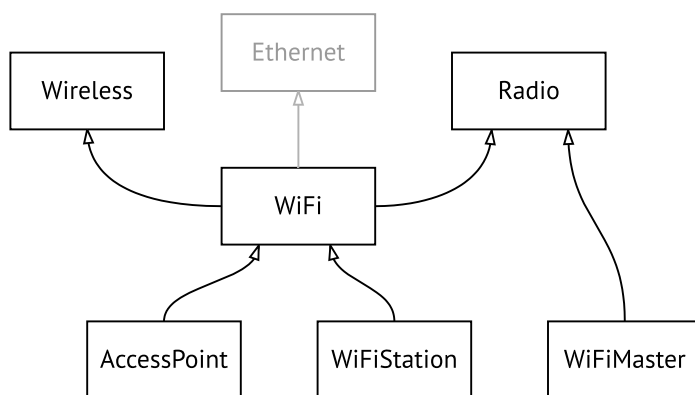


**Figure A.2. Tunnel interfaces**

**Figure A.3. USB interfaces**



**Figure A.4. Wi-Fi interfaces**

# B

# HTTP API

## B.1 REST Core Interface

Keenetic Lite HTTP API lets you develop a custom application, that will access Keenetic Lite 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 Keenetic Lite 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 .

### 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 302

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,[1] 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 303 and Section B.1.3.3 on page 303

### 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 3.25.7 on page 167 to see how "interface" and "access" parameters are mentioned in the Arguments table.

---

[1]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 , 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": "4G (KN-1210)",
     "hw_version": "10128000",
     "hw_id": "KN-1210",
     "device": "4G",
     "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.

Keenetic Lite 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 Keenetic Lite 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 Keenetic Lite.

```
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>FastEthernet0/Vlan2</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 Chapter 3 on page 27

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 27.

*argument*   Name of the argument. Available arguments for each command are listed in Chapter 3 on page 27. 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 23.

# 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>
```

# C

# 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::ifHCOutOctets

- IF-MIB::ifHCOutUcastPkts

- IF-MIB::ifHCOutMulticastPkts

- IF-MIB::ifHCOutBroadcastPkts

- IF-MIB::ifLinkUpDownTrapEnable

- IF-MIB::ifHighSpeed

- IF-MIB::ifPromiscuousMode

- IF-MIB::ifConnectorPresent

- IF-MIB::ifAlias

- IF-MIB::ifCounterDiscontinuityTime

| Main chipset | Switch | Device | Description |
|---|---|---|---|
| MT7621/RT63368 | MT7530 | Keenetic Giga III | 64-bit per port octet counters. 32-bit per port packet counters. Separate per port broadcast, multicast and unicast packet counters. |
| | RTL8370M | Keenetic Ultra II | |
| | | Keenetic LTE | |
| MT7620 | RTL8367B | Keenetic Viva | |
| | | Keeentic Extra | |
| | Integrated | Keenetic 4G III | 32-bit per port octet counters & 16-bit per port packet counters. Last counter overflow event time set in IF-MIB::ifCounterDiscontinuityTime. |
| | | Keenetic Lite II | |
| | | Keenetic Lite III | |
| | | Keenetic Omni | |
| | | Keenetic Omni II | |
| MT7628 | Integrated | Keenetic Start II | 16-bit per port packet counters only. Last counter overflow event time set in IF-MIB::ifCounterDiscontinuityTime. |
| | | Keenetic Lite III rev.B | |
| | | Keenetic 4G III rev.B | |
| | | Keenetic Air | |
| | | Keenetic Extra II | |

# C.3 IP-MIB

OID: 1.3.6.1.2.1.49

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: 1.3.6.1.2.1.50

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:

**RAM info**
- UCD-SNMP-MIB::memTotalReal

- UCD-SNMP-MIB::memAvailReal

- UCD-SNMP-MIB::memShared

- UCD-SNMP-MIB::memBuffer

• UCD-SNMP-MIB::memCached

**USB-storage info**

• UCD-SNMP-MIB::dskIndex

• UCD-SNMP-MIB::dskPath

• UCD-SNMP-MIB::dskTotal

• UCD-SNMP-MIB::dskAvail

• UCD-SNMP-MIB::dskUsed

• UCD-SNMP-MIB::dskPercent

• UCD-SNMP-MIB::dskPercentNode

**System load info**

• UCD-SNMP-MIB::laIndex

• UCD-SNMP-MIB::laNames

• UCD-SNMP-MIB::laLoad

• UCD-SNMP-MIB::laConfig

• UCD-SNMP-MIB::laLoadInt

• UCD-SNMP-MIB::ssCpuRawUser

• UCD-SNMP-MIB::ssCpuRawNice

• UCD-SNMP-MIB::ssCpuRawSystem

• 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

| IKE | AES128-SHA1-MODP1024 |
|---|---|
| | AES128-SHA1-MODP768 |
| | AES128-MD5-MODP1024 |
| | AES128-MD5-MODP768 |
| | 3DES-SHA1-MODP1024 |
| | 3DES-SHA1-MODP768 |
| | 3DES-MD5-MODP1024 |
| | 3DES-MD5-MODP768 |
| | DES-SHA1-MODP1024 |
| | DES-SHA1-MODP768 |
| | DES-MD5-MODP1024 |
| | DES-MD5-MODP768 |
| IPsec SA | DES-MD5-NO |
| | AES128-SHA1-NO |
| | 3DES-SHA1-NO |
| | DES-SHA1-NO |
| | AES128-MD5-NO |

| | |
|---|---|
| | 3DES-MD5-NO |
| Proposal | **encryption aes-cbc-128** |
| | **encryption 3des** |
| | **encryption des** |
| | **integrity sha1** |
| | **integrity md5** |
| | **dh-group 2** |
| | **dh-group 1** |

# D.2 normal

| | |
|---|---|
| IKE | AES256-SHA1-MODP1536 |
| | AES256-SHA1-MODP1024 |
| | AES128-SHA1-MODP1536 |
| | AES128-SHA1-MODP1024 |
| | 3DES-SHA1-MODP1536 |
| | 3DES-SHA1-MODP1024 |
| IPsec SA | AES128-SHA1-NO |
| | AES256-SHA1-NO |
| | 3DES-SHA1-NO |
| Proposal | **encryption aes-cbc-256** |
| | **encryption aes-cbc-128** |
| | **encryption 3des** |
| | **integrity sha1** |
| | **dh-group 5** |
| | **dh-group 2** |

# D.3 normal-3des

| | |
|---|---|
| IKE | AES256-SHA1-MODP1536 |
| | AES256-SHA1-MODP1024 |
| | AES128-SHA1-MODP1536 |

|  | AES128-SHA1-MODP1024 |
|---|---|
|  | 3DES-SHA1-MODP1536 |
|  | 3DES-SHA1-MODP1024 |
| `IPsec SA` | 3DES-SHA1-NO |
|  | AES256-SHA1-NO |
|  | AES128-SHA1-NO |
| `Proposal` | **encryption aes-cbc-256** |
|  | **encryption aes-cbc-128** |
|  | **encryption 3des** |
|  | **integrity sha1** |
|  | **dh-group 5** |
|  | **dh-group 2** |

# D.4 strong

| `IKE` | AES256-SHA1-MODP2048 |
|---|---|
|  | AES256-SHA1-MODP1536 |
|  | AES128-SHA1-MODP2048 |
|  | AES128-SHA1-MODP1536 |
| `IPsec SA` | AES256-SHA1-MODP1536 |
|  | AES256-SHA1-MODP2048 |
|  | AES256-SHA1-MODP2048 |
|  | AES256-SHA1-MODP1536 |
| `Proposal` | **encryption aes-cbc-256** |
|  | **integrity sha1** |
|  | **dh-group 14** |
|  | **dh-group 5** |

# D.5 weak-pfs

| `IKE` | AES128-SHA1-MODP1024 |
|---|---|
|  | AES128-SHA1-MODP768 |

| | |
|---|---|
| | AES128-MD5-MODP1024 |
| | AES128-MD5-MODP768 |
| | 3DES-SHA1-MODP1024 |
| | 3DES-SHA1-MODP768 |
| | 3DES-MD5-MODP1024 |
| | 3DES-MD5-MODP768 |
| | DES-SHA1-MODP1024 |
| | DES-SHA1-MODP768 |
| | DES-MD5-MODP1024 |
| | DES-MD5-MODP768 |
| `IPsec SA` | DES-MD5-MODP1024 |
| | AES128-SHA1-NO |
| | 3DES-SHA1-NO |
| | DES-SHA1-NO |
| | AES128-MD5-NO |
| | 3DES-MD5-NO |
| | AES128-SHA1-MODP1024 |
| | 3DES-SHA1-MODP1024 |
| | DES-SHA1-MODP1024 |
| | AES128-SHA1-MODP768 |
| | 3DES-SHA1-MODP768 |
| | DES-SHA1-MODP768 |
| | AES128-MD5-MODP1024 |
| | 3DES-MD5-MODP1024 |
| | AES128-MD5-MODP768 |
| | 3DES-MD5-MODP768 |
| | DES-MD5-MODP768 |
| `Proposal` | **encryption aes-cbc-128** |
| | **encryption 3des** |
| | **encryption des** |

|  | integrity sha1 |
|  | integrity md5 |
|  | dh-group 2 |
|  | dh-group 1 |

# D.6 normal-pfs

| IKE | AES256-SHA1-MODP1536 |
|---|---|
|  | AES256-SHA1-MODP1024 |
|  | AES128-SHA1-MODP1536 |
|  | AES128-SHA1-MODP1024 |
|  | 3DES-SHA1-MODP1536 |
|  | 3DES-SHA1-MODP1024 |
| IPsec SA | AES128-SHA1-MODP1024 |
|  | AES128-SHA1-NO |
|  | AES256-SHA1-NO |
|  | 3DES-SHA1-NO |
|  | AES256-SHA1-MODP1536 |
|  | AES128-SHA1-MODP1536 |
|  | 3DES-SHA1-MODP1536 |
|  | AES256-SHA1-MODP1024 |
|  | 3DES-SHA1-MODP1024 |
| Proposal | encryption aes-cbc-256 |
|  | encryption aes-cbc-128 |
|  | encryption 3des |
|  | integrity sha1 |
|  | dh-group 5 |
|  | dh-group 2 |

# D.7 normal-3des-pfs

| IKE | AES256-SHA1-MODP1536 |
|---|---|

|  | |
|---|---|
|  | AES256-SHA1-MODP1024 |
|  | AES128-SHA1-MODP1536 |
|  | AES128-SHA1-MODP1024 |
|  | 3DES-SHA1-MODP1536 |
|  | 3DES-SHA1-MODP1024 |
| `IPsec SA` | 3DES-SHA1-MODP1024 |
|  | 3DES-SHA1-NO |
|  | AES256-SHA1-NO |
|  | AES128-SHA1-NO |
|  | AES256-SHA1-MODP1536 |
|  | AES128-SHA1-MODP1536 |
|  | 3DES-SHA1-MODP1536 |
|  | AES256-SHA1-MODP1024 |
|  | 3DES-SHA1-MODP1024 |
| `Proposal` | **encryption aes-cbc-256** |
|  | **encryption aes-cbc-128** |
|  | **encryption 3des** |
|  | **integrity sha1** |
|  | **dh-group 5** |
|  | **dh-group 2** |