Ethernet Interfaces

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This document applies to V2.9

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General Information

Summary

MikroTik RouterOS supports various types of Ethernet Interfaces. The complete list of supported Ethernet NICs can be found in the Device Driver List.

Specifications

Packages required: ***system***
License required: ***level1***
Home menu level: ***/interface ethernet***
Standards and Technologies: ***IEEE 802.3***
Hardware usage: ***Not significant***

Related Documents

- Package Management
- Device Driver List
- IP Addresses and ARP
- DHCP Client and Server

Additional Documents

- http://www.ethermanage.com/ethernet/ethernet.html
- http://www.dcs.gla.ac.uk/~liddellj/nct/ethernet_protocol.html

Ethernet Interface Configuration

Home menu level: ***/interface ethernet***

Property Description

name (*name*; default: **etherN**) - assigned interface name, whrere 'N' is the number of the ethernet interface

arp (*disabled* | *enabled* | *proxy-arp* | *reply-only*; default: **enabled**) - Address Resolution Protocol

cable-setting (*default* | *short* | *standard*; default: **default**) - changes the cable length setting (only applicable to NS DP83815/6 cards)

- **default** - suport long cables
- **short** - support short cables
- **standard** - same as default

mtu (*integer*; default: **1500**) - Maximum Transmission Unit

disable-running-check (*yes* | *no*; default: **yes**) - disable running check. If this value is set to 'no', the router automatically detects whether the NIC is connected with a device in the network or not

mac-address (*MAC address*) - set the Media Access Control number of the card

auto-negotiation (*yes* | *no*; default: **yes**) - when enabled, the interface "advertises" its maximum capabilities to achieve the best connection possible

full-duplex (*yes* | *no*; default: **yes**) - defines whether the transmission of data appears in two directions simultaneously

speed (*10 Mbps* | *100 Mbps* | *1 Gbps*) - sets the data transmission speed of the interface. By default, this value is the maximal data rate supported by the interface

Notes

For some Ethernet NICs it is possible to blink the LEDs for 10s. Type **/interface ethernet blink ether1** and watch the NICs to see the one which has blinking LEDs.

When **disable-running-check** is set to **no**, the router automatically detects whether the NIC is connected to a device in the network or not. When the remote device is not connected (the leds are not blinking), the route which is set on the specific interface, becomes invalid.

Example

```
[admin@MikroTik] > interface print
Flags: X - disabled, D - dynamic, R - running
 #    NAME                        TYPE            RX-RATE    TX-RATE    MTU
 0  X ether1                      ether           0          0          1500
[admin@MikroTik] > interface enable ether1
```

```
[admin@MikroTik] > interface print
Flags: X - disabled, D - dynamic, R - running
 #    NAME                         TYPE            RX-RATE    TX-RATE    MTU
 0  R ether1                       ether           0          0          1500
[admin@MikroTik] > interface ethernet
[admin@MikroTik] interface ethernet> print
Flags: X - disabled, R - running
 #    NAME                                  MTU   MAC-ADDRESS       ARP
 0  R ether1                                1500  00:0C:42:03:00:F2 enabled
[admin@MikroTik] interface ethernet> print detail
Flags: X - disabled, R - running
 0  R name="ether1" mtu=1500 mac-address=00:0C:42:03:00:F2 arp=enabled
      disable-running-check=yes auto-negotiation=yes full-duplex=yes
      cable-settings=default speed=100Mbps
[admin@MikroTik] interface ethernet>
```

Monitoring the Interface Status

Command name: ***/interface ethernet monitor***

Property Description

status (*link-ok* | *no-link* | *unknown*) - status of the interface, one of the:

- **link-ok** - the card has connected to the network
- **no-link** - the card has not connected to the network
- **unknown** - the connection is not recognized

rate (*10 Mbps* | *100 Mbps* | *1 Gbps*) - the actual data rate of the connection

auto-negotiation (*done* | *incomplete*) - fast link pulses (FLP) to the adjacent link station to negotiate the SPEED and MODE of the link

- **done** - negotiation done
- **incomplete** - negotiation failed

full-duplex (*yes* | *no*) - whether transmission of data occurs in two directions simultaneously

Notes

See the IP Addresses and ARP section of the manual for information how to add **IP addresses** to the interfaces.

Example

```
[admin@MikroTik] interface ethernet> monitor ether1,ether2
             status: link-ok link-ok
    auto-negotiation: done    done
                rate: 100Mbps 100Mbps
         full-duplex: yes     yes
```

Troubleshooting

Description

- **Interface monitor shows wrong information**

In some very rare cases it is possible that the device driver does not show correct information, but it does not affect the NIC's performance (of course, if your card is not broken)