Ethernet Interfaces

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This document applies to V3.0

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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***

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

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

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

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

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

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

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

mdix-enable (yes | no) - whether the MDI/X auto crosscable correction feature is enabled for the port (if applicable)

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

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

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

Command Description

blink (*name*) - blink the port's LEDs for about 10 seconds. Useful if you want to discover, which of the physical Ethernet ports is named as specified

reset-mac (*name*) - set the MAC address of the NIC to the factory default setting

Notes

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            MTU
 0  X ether1                                    ether           1500
[admin@MikroTik] > interface enable ether1
[admin@MikroTik] > interface print
Flags: X - disabled, D - dynamic, R - running
 #    NAME                                      TYPE            MTU
 0  R ether1                                    ether           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=no auto-negotiation=yes full-duplex=yes
      cable-settings=default mdix-enable=yes speed=100Mbps
[admin@MikroTik] interface ethernet>
```

Monitoring the Interface Status

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

Property Description

auto-negotiation (*done* | *incomplete*) - fast link pulses (FLP) to the adjacent link station to negotiate the SPEED and MODE of the link. Both stations choose the maximal speed boh support.

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

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

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

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

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

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

- **link-ok** - the card is connected to the network
- **no-link** - the card is not connected to the network (cable is not plugged in or faulty)
- **unknown** - the connection is not recognized (if the card does not report connection status)

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
    default-cable-setting: standard standard
```

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)