System Resource Management

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This document applies to V3.0

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General Information

Summary

MikroTik RouterOS offers several features for monitoring and managing the system resources.

Specifications

Packages required: ***system***
License required: ***level1***
Home menu level: ***/system***
Standards and Technologies: ***None***
Hardware usage: ***Not significant***

System Resource

Home menu level: ***/system resource***

Notes

In **monitor** command priotout the values for cpu usage and free memory are in percentage and kilobytes, respectively.

Example

To view the basic system resource status:

```
[admin@MikroTik] system resource> print
                   uptime: 5h26m12s
                  version: "3.0"
             free-memory: 17000kB
            total-memory: 30200kB
                   model: "RouterBOARD 500"
                     cpu: "MIPS 4Kc V0.10"
               cpu-count: 1
           cpu-frequency: 333MHz
                cpu-load: 3
          free-hdd-space: 14208kB
         total-hdd-space: 61440kB
  write-sect-since-reboot: 1047
        write-sect-total: 379983
             bad-blocks: 0
[admin@MikroTik] system resource>
```

To view the current system CPU usage and free memory:

```
[admin@MikroTik] > system resource monitor
       cpu-used: 0
    free-memory: 115676

[admin@MikroTik] >
```

IRQ Usage Monitor

Command name: ***/system resource irq print***

Description

IRQ usage shows which IRQ (Interrupt requests) are currently used by hardware.

Example

```
[admin@MikroTik] > system resource irq print
Flags: U - unused
   IRQ OWNER
   1   keyboard
   2   APIC
 U 3
   4   serial port
   5   [Ricoh Co Ltd RL5c476 II (#2)]
 U 6
 U 7
 U 8
 U 9
 U 10
   11  ether1
   12  [Ricoh Co Ltd RL5c476 II]
 U 13
   14  IDE 1
[admin@MikroTik] >
```

IO Port Usage Monitor

Command name: ***/system resource io print***

Description

IO usage shows which IO (Input/Output) ports are currently used by hardware.

Example

```
[admin@MikroTik] > system resource io print
 PORT-RANGE        OWNER
 0x20-0x3F         APIC
 0x40-0x5F         timer
 0x60-0x6F         keyboard
 0x80-0x8F         DMA
 0xA0-0xBF         APIC
 0xC0-0xDF         DMA
 0xF0-0xFF         FPU
 0x1F0-0x1F7       IDE 1
 0x2F8-0x2FF       serial port
 0x3C0-0x3DF       VGA
 0x3F6-0x3F6       IDE 1
 0x3F8-0x3FF       serial port
 0xCF8-0xCFF       [PCI conf1]
 0x4000-0x40FF     [PCI CardBus #03]
 0x4400-0x44FF     [PCI CardBus #03]
 0x4800-0x48FF     [PCI CardBus #04]
 0x4C00-0x4CFF     [PCI CardBus #04]
 0x5000-0x500F     [Intel Corp. 82801BA/BAM SMBus]
 0xC000-0xC0FF     [Realtek Semiconductor Co., Ltd. RTL-8139/8139C/8139C+]
 0xC000-0xC0FF     [8139too]
 0xC400-0xC407     [Cologne Chip Designs GmbH ISDN network controller [HFC-PCI]
 0xC800-0xC87F     [Cyclades Corporation PC300/TE (1 port)]
 0xF000-0xF00F     [Intel Corp. 82801BA IDE U100]

[admin@MikroTik] >
```

USB Port Information

Command name: ***/system resource usb print***

Description

Shows all USB ports available for the router. Only available on the routers, supporting USB.

Property Description

device (*read-only: text*) - number of device
name (*read-only: text*) - name of the USB port
speed (*read-only: integer*) - bandwidth speed at which the port works
vendor (*read-only: text*) - vendor name of the USB device

Example

To list all available USB ports:

```
[admin@MikroTik] system resource usb> print
 # DEVICE VENDOR                  NAME                    SPEED
 0 1:1                            USB OHCI Root Hub       12 Mbps
[admin@MikroTik] system resource usb>
```

PCI Information

Command name: ***/system resource pci print***

Property Description

category (*read-only: text*) - device type
device (*read-only: text*) - number of device
device-id (*read-only: integer*) - hexadecimal device ID
irq (*read-only: integer*) - IRQ number which this device uses
memory (*read-only: integer*) - memory range this device uses
name (*read-only: text*) - name of the device
vendor (*read-only: text*) - vendor name of the device
vendor-id (*read-only: integer*) - hexadecimal vendor ID of the device

Example

To see PCI slot details:

```
[admin@MikroTik] system resource pci> print
 # DEVICE   VENDOR                      NAME                        IRQ
 0 00:13.0  Compaq                      ZFMicro Chipset USB (rev... 12
 1 00:12.5  National Semi               SC1100 XBus (rev: 0)
 2 00:12.4  National Semi               SC1100 Video (rev: 1)
 3 00:12.3  National Semi               SCx200 Audio (rev: 0)
 4 00:12.2  National Semi               SCx200 IDE (rev: 1)
 5 00:12.1  National Semi               SC1100 SMI (rev: 0)
 6 00:12.0  National Semi               SC1100 Bridge (rev: 0)
 7 00:0e.0  Atheros Communications      AR5212 (rev: 1)             10
```

```
  8 00:0d.1  Texas Instruments           PCI1250 PC card Cardbus ... 11
  9 00:0d.0  Texas Instruments           PCI1250 PC card Cardbus ... 11
 10 00:0c.0  National Semi               DP83815 (MacPhyter) Ethe... 10
 11 00:0b.0  National Semi               DP83815 (MacPhyter) Ethe... 9
 12 00:00.0  Cyrix Corporation           PCI Master (rev: 0)
 [admin@MikroTik] system resource pci>
```

Reboot

Command name: ***/system reboot***

Description

The system reboot is required when upgrading or installing new software packages. The packages are installed during the system shutdown.

The reboot process sends termination signal to all running processes, unmounts the file systems, and reboots the router.

Notes

Only users, which are members of groups with reboot privileges are permitted to reboot the router.

Reboot can be called from scripts, in which case it does not prompt for confirmation.

Example

```
 [admin@MikroTik] > system reboot
 Reboot, yes? [y/N]: y
 system will reboot shortly
 [admin@MikroTik] >
```

Shutdown

Command name: ***/system shutdown***

Description

Before turning the power off for the router, the system should be brought to halt. The shutdown process sends termination signal to all running processes, unmounts the file systems, and halts the router.

For some systems, it is necessary to wait up to 30 seconds (but usually less than 10 seconds if there is no upgrade scheduled) for a safe power down.

Notes

Only users, which are members of groups with reboot privileges are permitted to shutdown the router.

Shutdown can be called from scripts, in which case it does not prompt for confirmation.

Example

```
[admin@MikroTik] > system shutdown
Shutdown, yes? [y/N]: y
system will shutdown promptly
[admin@MikroTik] >
```

Router Identity

Home menu level: ***/system identity***

Description

The router identity is displayed before the command prompt. It is also used for DHCP client as 'host name' parameter when reporting it to the DHCP server.

Example

To view the router identity:

```
[admin@MikroTik] > system identity print
    name: "MikroTik"
[admin@MikroTik] >
```

To set the router identity:

```
[admin@MikroTik] > system identity set name=Gateway
[admin@Gateway] >
```

Configuration Change History

Home menu level: Command name: ***/system history, /undo, /redo***

Description

The history of system configuration changes is held until the next router shutdown. The invoked commands can be 'undone' (in reverse order they have been invoked). The 'undone' commands may be 'redone' (in reverse order they have been 'undone').

Command Description

/redo - undoes previous '/undo' command

/system history print - print a list of last configuration changes, specifying whether the action can be undone or redone

/undo - undoes previous configuration changing command (except another '/undo' command)

Notes

Floating-undo actions are created within the current SAFE mode session. They are automatically converted to undoable and redoable when SAFE mode terminated successfully, and are all undone irreverively when SAFE mode terminated insuccessfully.

Undo command cannot undo commands past start of the SAFE mode.

Example

To show the list of configuration changes:

```
[admin@MikroTik] system history> print
Flags: U - undoable, R - redoable, F - floating-undo
   ACTION                                  BY                  POLICY
 U system time zone changed                admin               write
 U system time zone changed                admin               write
 U system time zone changed                admin               write
 U system identity changed                 admin               write
[admin@MikroTik] system clock>
```

What the **/undo** command does:

```
[admin@MikroTik] system history> print
Flags: U - undoable, R - redoable, F - floating-undo
   ACTION                                  BY                  POLICY
 R system time zone changed                admin               write
 U system time zone changed                admin               write
 U system time zone changed                admin               write
 U system identity changed                 admin               write
[admin@MikroTik] system clock>
```

System Note

Home menu level: ***/system note***

Description

System note feature allows you to assign arbitrary text notes or messages that will be displayed on each login right after banner. For example, you may distribute warnings between system administrators this way, or describe what does that particular router actually do. To configure system note, you may upload a plain text file named **sys-note.txt** on the router's FTP server, or, additionally, edit the settings in this menu

Property Description

note (*text*; default: "") - the note

show-at-login (yes | no; default: **yes**) - whether to show system note on each login

Notes

If you want to enter or edit multiline system note, you may need to use embedded text editor: `/system note edit note`