System Resource Management

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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***

Related Documents

- Software Package Management
- System Clock and NTP

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: 04:32:41
               free-memory: 46488 kB
              total-memory: 62672 kB
                     model: RouterBOARD 230
                       cpu: Geode
                  cpu-load: 0
            free-hdd-space: 35873 kB
           total-hdd-space: 61972 kB
    write-sect-since-reboot: 2678
          write-sect-total: 408130
[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.

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

device (*read-only: text*) - number of device

irq (*read-only: integer*) - IRQ number which this device uses

name (*read-only: text*) - name of the USB port

vendor (*read-only: text*) - vendor name of the USB 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 most systems, it is necessary to wait approximately 30 seconds 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] >
```

Date and Time

Home menu level: ***/system clock***

Property Description

date (*text*) - date in format "mm/DD/YYY"

dst-active (*read-only:* yes | no; default: **no**) - whether the Daylight Saving Time is currently acitve

gmt-offset (*read-only: text*) - the current effective GMT timezone in format "+HH:MM" or "-HH:MM"

time (*time*) - time in format "HH:MM:SS"

time-zone-name (*name*; default: **manual**) - timezone code (for example, Europe/Riga or America/Chicago). Used for configuring time zone and DST adjustments

- **manual** - adjust all time zone and DST settings manally

Notes

It is recommended that you reboot the router after time change to avoid the possible inconsistencies in time

measurments and logging.

Date and time settings become permanent and effect BIOS settings.

If NTP update gives time shifted by 1 hour, although the time zone is set correctly, you may want either to change the timezone, or to use manual DST control and adjust the DST delta setting in **/system clock manual** menu.

Example

To view the current date and time settings:

```
[admin@Local] system clock> print
            time: 20:19:47
            date: jul/13/2006
  time-zone-name: "Europe/Riga"
      gmt-offset: +03:00
      dst-active: yes
[admin@Local] system clock>
```

To set the system date and time:

```
[admin@Local] system clock> set date=nov/22/2022 time=11:10:21 time-zone=+0
[admin@Local] system clock> print
            time: 11:10:25
            date: nov/22/2022
  time-zone-name: "Europe/Riga"
      gmt-offset: +03:00
      dst-active: yes
[admin@Local] system clock>
```

System Clock Manual Adjustment

Home menu level: ***/system clock manual***

Description

In most countries, a Daylight Saving Time regime is activated in spring and deactivated in autumn. This configuration menu provides DST adjustment facility, to drift the timezone according to your local legislation and practice in case it does not match any of the presets that it is possible to choose in **/system clock** menu from.

Property Description

dst-delta (*text*; default: **+01:00**) - UTC timezone drift in format "+HH:MM" or "-HH:MM" to be added to the local timezone during DST period

dst-end (*date* | *time*) - date and time when DST ends (when the delta is to be dropped).

dst-start (*date* | *time*) - date and time when DST begins (when the delta is to be applied).

time-zone - GMT timezone in format "+HH:MM" or "-HH:MM"

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`