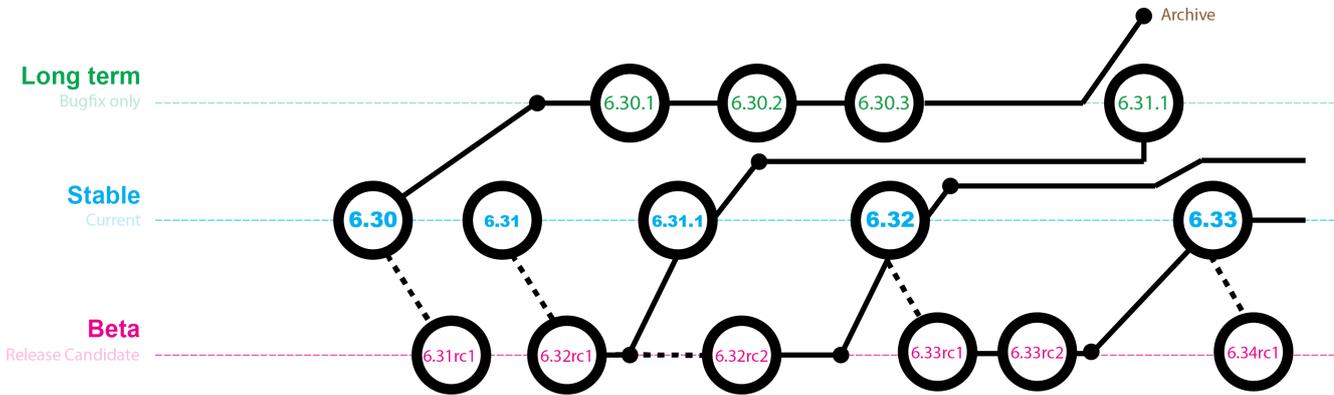


MikroTik devices are preinstalled with RouterOS, so installation is usually not needed, except in the case where installing RouterOS on an x86 PC. The upgrade process is straight forward.

Version numbering

RouterOS versions are numbered sequentially when a period is used to separate sequences, it does *not* represent a decimal point, and the sequences do *not* represent a decimal point. For instance, v5.2 is not "two and a half" or "half way to version three", it is the fifth second-level revision of the second first-level revision. Therefore v5.2 is the fifth second-level revision of the second first-level revision. RouterOS versions are released in several "release chains": Long-term, Stable and Beta. When upgrading RouterOS, you can choose a release chain from which to

- **Long term:** Released rarely, and includes only the most important fixes, upgrades within one number branch not add new features. When a **Stable** release has been stable enough, it gets promoted into the Long Term branch, replacing an older release, which is then moved to Archive. This consecutively adds new features.
- **Stable:** Released every few weeks, includes all tested features and fixes
- **Testing:** Released every few days, only undergoes basic internal testing, should not be used in production

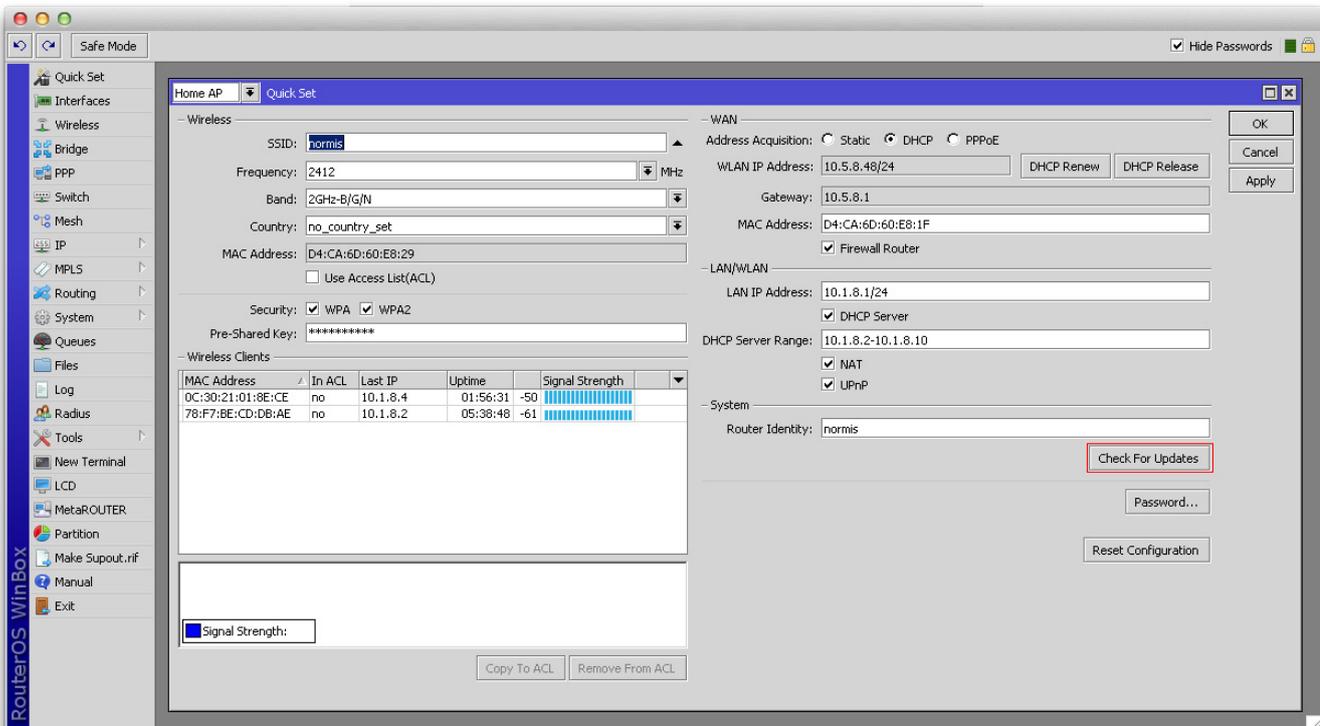


Standard upgrade

The package upgrade feature connects to the MikroTik download servers and checks if there is a new RouterOS version for your device.

After clicking the Upgrade button in QuickSet or in Packages menu upgrade window will open with current Changelog (if newer version exists) and buttons to download and install latest versions.

By clicking "Download & Upgrade", downloads will start and after successful download will reboot to install downloaded packages. Even if custom packages are installed, downloader will take that into account and download all necessary packages.



- Quick Set
- Wireless
- Interfaces
- Bridge
- Switch
- PPP
- Mesh
- IP
- MPLS
- Routing
- System
- Auto Upgrade
- Certificates
- Clock
- Console
- Drivers
- Health
- History
- Identity
- LEDs
- License
- Logging
- NTP Client
- NTP Server
- Packages
- Password

13 items

		▲ Name	Version	Build Time	Scheduled
		 advanced-tools	6.6	Nov/06/2013 10:23:28	
		 dhcp	6.6	Nov/06/2013 10:23:28	
		 hotspot	6.6	Nov/06/2013 10:23:28	
	X	 ipv6	6.6	Nov/06/2013 10:23:28	
		 mpls	6.6	Nov/06/2013 10:23:28	
		 ntp	6.6	Nov/07/2013 13:04:08	
		 option	6.6	Nov/06/2013 10:23:28	
		 ppp	6.6	Nov/06/2013 10:23:28	
		 routers-mipsbe	6.6	Nov/06/2013 10:23:28	
		 routing	6.6	Nov/06/2013 10:23:28	
		 security	6.6	Nov/06/2013 10:23:28	
		 system	6.6	Nov/06/2013 10:23:28	
		 wireless	6.6	Nov/06/2013 10:23:28	

Quick Set					
Wireless					
Interfaces					
Bridge					
Switch					
PPP					
Mesh					
IP					
MPLS					
Routing					
System					
Auto Upgrade	<div style="text-align: right;"> <input type="button" value="Close"/> <input type="button" value="Download"/> <input type="button" value="Download&Upgrade"/> </div> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center;">Current Version</td> <td style="text-align: center;">6.6</td> </tr> <tr> <td style="text-align: center;">Latest Version</td> <td style="text-align: center;">6.7rc1</td> </tr> </table> <p>What's new in 6.7rc1 (2013-Nov-11 15:04):</p> <ul style="list-style-type: none"> *) fixed hairpin nat on bridge with use-ip-firewall=yes; <p>What's new in 6.6 (2013-Nov-07 13:04):</p> <ul style="list-style-type: none"> *) winbox - fixed problem where all previous session opened windows were read only; *) certificate - no more 'reset-certificate-cache' and 'decrypt' commands, private keys can be decrypted only on 'import', use 'decrypt' before upgrade if needed; *) fixed arp-reply only with more than one ip address on interface; *) fixed RB400 not to reboot by watchdog during micro-sd format; *) web proxy - fix SPDY server push handling; *) certificate - merged '/certificate ca issued', '/certificate scep client' and '/certificate templates' into '/certificate'; *) console - :foreach command can iterate over keys and values in an array, by specifying two counter variables, e.g.: :foreach k,v in=[/system clock get] do={:put "\$k is \$v"}; *) added support for new Intel 10Gb ethernet cards (82599); *) certificates - fixed certificate import; *) wireless - fixed crash when dfs was enabled on pre-n wireless cards; *) fixed port flapping on CCR; <p>What's new in 6.5 (2013-Oct-16 15:32):</p> <ul style="list-style-type: none"> *) tftp - added data packet pipelining for read requests; *) console - exported physical interface configuration uses 'default-name' 	Current Version	6.6	Latest Version	6.7rc1
Current Version	6.6				
Latest Version	6.7rc1				
Certificates					
Clock					
Console					
Drivers					
Health					
History					
Identity					
LEDs					
License					
Logging					
NTP Client					
NTP Server					
Packages					
Password					

Manual upgrade

You can upgrade RouterOS in the following ways:

- Winbox – drag and drop files to the Files menu
- WebFig - upload files from Files menu
- FTP - upload files to root directory
- The Dude – [See manual here](#)

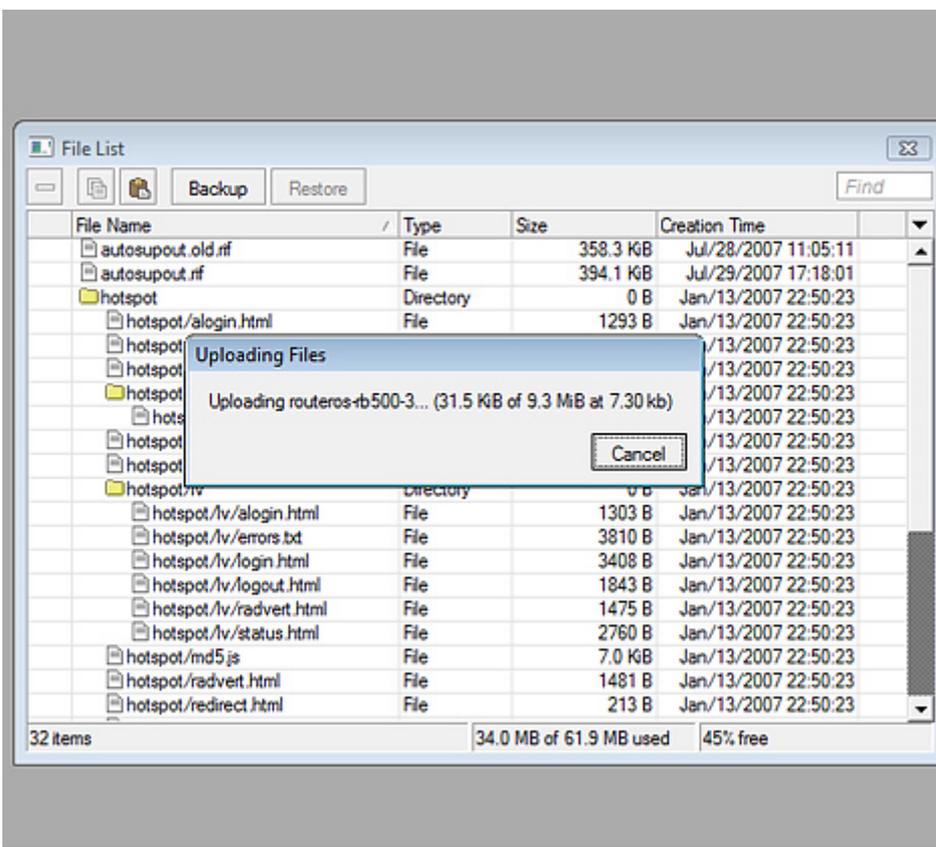
RouterOS cannot be upgraded through a serial cable. Only [RouterBOOT](#) is upgradeable using this method.

Manual upgrade process

- First step - visit www.mikrotik.com and head to the download page, there choose the type of system you have the RouterOS installed on.
- Download the **Combined package**, it will include all the functionality of RouterOS:

Using Winbox

Choose your system type, and download the upgrade package. Connect to your router with Winbox, Select the downloaded file with your mouse, and drag it to the already present, make sure to put the package in the root menu, not inside the hotspot folder! The upload will start.



After it finishes - reboot the device. The New version number will be seen in the Winbox Title and in the Packages menu

Using FTP

- Open your favourite FTP program (in this case it is [Filezilla](#)), select the package and upload it to your router ([demo2.mt.lv](#) is the address of my router in this example)
- uploading many packages, but in your case - you will have one file that contains them all
- if you wish, you can check if the file is successfully transferred onto the router (optional):

```
[normis@Demo_v2.9] >file print
# NAME                TYPE                SIZE                CREATION-TIME
0 supout.rif          .rif file          285942             nov/24/2005 15:21:54
1 dhcp-2.9.8.npk     package            138846             nov/29/2005 09:55:42
2 ppp-2.9.8.npk     package            328636             nov/29/2005 09:55:43
3 advanced-tools-2.9... package            142820             nov/29/2005 09:55:42
4 web-proxy-2.9.8.npk package            377837             nov/29/2005 09:55:43
5 wireless-2.9.8.npk package            534052             nov/29/2005 09:55:43
6 routerboard-2.9.8.npk package            192628             nov/29/2005 09:55:45
7 system-2.9.8.npk   package            5826498            nov/29/2005 09:55:54
```

- reboot your router for the upgrade process to begin:

```
[normis@Demo_v2.9] > system reboot
Reboot, yes? [y/N]: y
```

- after the reboot, your router will be up to date, you can check it in this menu:

```
/system package print
```

- if your router did not upgrade correctly, make sure you check the **log**

```
/log print without-paging
```

RouterOS mass upgrade

You can upgrade multiple MikroTik routers within few clicks. Let's have a look on simple network with 3 routers (the same method works on networks with infinite number of routers)

RouterOS auto-upgrade

Sub-menu: /system package update

RouterOS version 6 has new auto upgrade option. RouterOS checks amazon servers for information if new version is available and upgrades after upgrade command is run. The upgrade process by running a script in the scheduler:

gps	Global Positioning System devices support.
hotspot	
ipv6	
mpls	Multi-protocol label switching support
multicast	Multicast PIM and IGMP proxy support
ntp	Network time protocol service
ppp	Enables all ppp type tunnel support (pppoe, sstp, pptp etc.)
routerboard	Allows to access and manage RouterBOARD specific settings.
routing	Dynamic routing protocols (OSPF, RIP, BGP)
security	Ipsec, SSH, secure winbox
system	RouterOS core package, enables basic routing, firewall, interface drivers etc. RouterOS cannot run without this package
ups	
user-manager	MikroTik's RADIUS server
wireless	Enables wireless drivers
wireless-fp	Enables wireless 802.11ac support
isdn	
lcd	3rd party LCD pannel support.
kvm	Enables KVM virtualization
routeros	Combined RouterOS package. Includes system, hotspot, wireless, ppp, security, mpls, advanced-tools, dhcp, routerboard, ipv6, routing.

Working with packages

Actions for executed commands will be applied only on restart. Until then, user can freely schedule or revert set actions.

Command	Description
disable	Schedule package to be disabled after next reboot. All features provided by package will not be accessible.
downgrade	During reboot process router will try to force installation of uploaded packages on the router. Will prompt for reboot.
print	Outputs information about installed packages (version, package state, planned state changes, build date etc.)
enable	Schedule package to be enabled after next reboot.
uninstall	Schedule package to be removed from the router.
unschedule	Remove scheduled task.

For example list of available packages

```
[admin@rack1_b3] /system package> print
Flags: X - disabled
#  NAME          VERSION          SCHEDULED
0  option         6.18
1  routeros-tile  6.18
2  system         6.18
3  X wireless-fp   6.18
4  ipv6           6.18
5  wireless       6.18
6  hotspot        6.18
7  dhcp           6.18
8  mpls           6.18          scheduled for disable
9  routing        6.18
10 ppp            6.18
11 security      6.18
12 advanced-tools 6.18
```

Notice that we have wireless-fp package disabled and mpls package scheduled for disable

