

Upgrade your router, Part 2

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Last month we covered the basic things you need to do to your home router from a security point of view.

This month we explore what you CAN do to enhance your router beyond what it could do when it was brand new out of the box. How is that possible? Simple – as we covered last month, companies don't make a lot of money selling these devices and so are not motivated to do much to them once they've left the factory. The open source community have a whole different operating system for it based on Linux.



To see if your router can be upgraded, just put in to Google the model and the words “alternative firmware” and you should see many results. One website, DSLreports.com, give me many choices each with different features.

<http://www.dslreports.com/faq/10537>

Wifibox » www.linksysinfo.org

- easy to use, home user oriented, good www interface

Sveasoft » www.sveasoft.com/modules/phpBB2

- oriented to the power user/WISP, focus on routing, repeaters

DD-WRT: » www.dd-wrt.com

- some advanced features VoIP, Kaid, etc.

OpenWRT » www.openwrt.org

- hacker's version, rw file system, for do-it-yourselfers

BatBox » www.batbox.org/wrt54g-linux.html

- easy to install distro that runs completely from RAM

HyperWRT: » www.hyperwrt.org

Tomato: » www.polarcloud.com/tomato

Since I had a problem in December with Tomato firmware, I will use DD-WRT for this process. Your choices will depend on what is available for you. Going to each of the websites and checking their database for your exact model and version will narrow down your choices. On this website I clicked on the Router Database link.

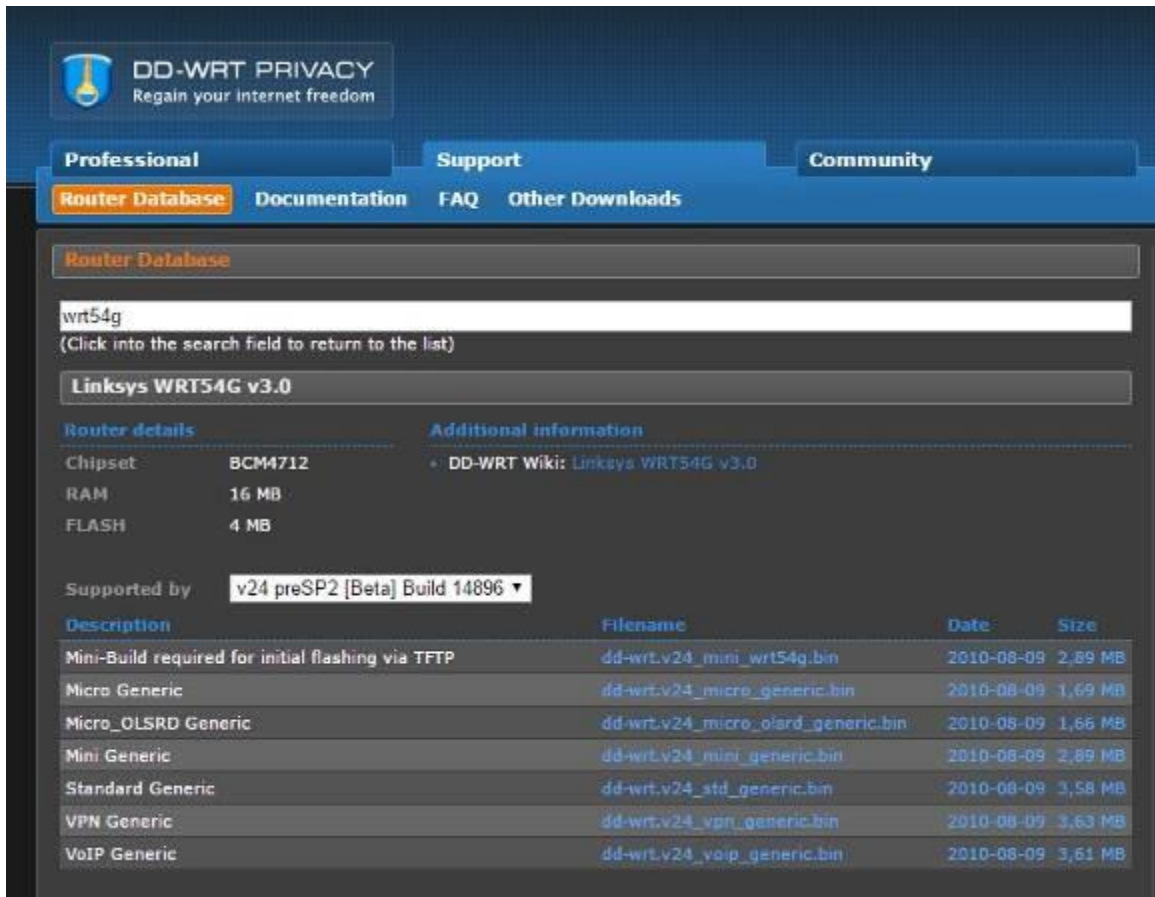


Putting in the model number WRT54G brings up many possibilities so that I had to narrow it down to mine. I found that info by logging into my router in a new tab in my browser as shown last month and on the top right of the screen – there it was: Firmware Version v3.0.



Scrolling down and selecting Revision 3 brought me two different builds with MANY choices and I selected the most recent one Build 14896 and just went with the standard generic. If I really wanted better performance with Voice Over

Internet Protocol (VOIP) or setting up a Virtual Private Network (VPN) I would have selected one of those.



When I clicked on the .bin file I was sure to remember where it downloaded (for me it was my Downloads folder)

Now the critical step takes me back to my tab with the route where I click on Administration and the Firmware Upgrade option.



Here is where I click on Choose File and go to my downloaded .bin file. Critical now is do not have anything running on your computer and pray the power does not go out for the next few minutes as you press the Upgrade button.

Firmware Upgrade

Please select a file to upgrade: dd-wrt.v24_...generic.bin

Warning: Upgrading firmware may take a few minutes, please don't turn off the power or press the reset button.



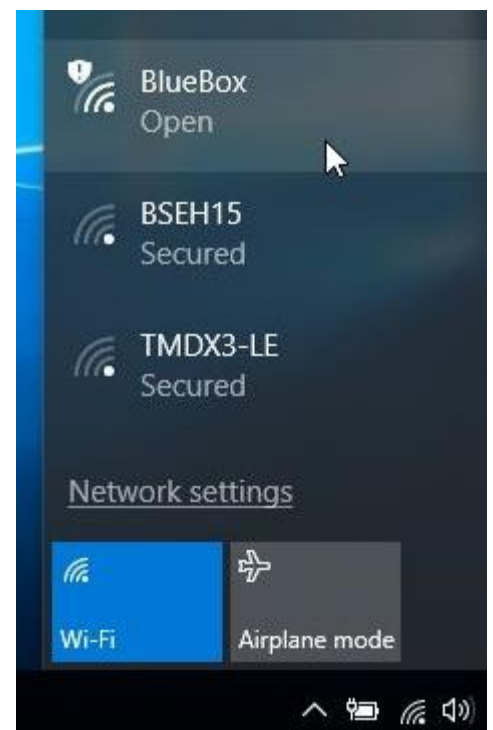
Upgrade must NOT be interrupted !



What you are doing is erasing the “operating system” of your router and replacing it with a new one. You can see where any interruption could have serious consequences.

Everything went fine for me and I knew that because I lost my connection to the Internet and my router.

I was doing this wirelessly, so I had to reconnect to my router. First thing I notice is that my wireless router no longer has a password.



I connect to it anyway and open my browser to start the setup of my “new” router.

First thing I need to know is the default username and password to talk to my router. Reading the documentation on the DDWRT website I find a username of root and admin is the password.

access Open browser – same ip address will bring you to your new interface for your router. In order to change settings, you need to log in.

The screenshot shows the dd-wrt.com control panel interface. At the top right, it displays 'Firmware: DD-WRT v24-sp2 (08/07)', 'Time: 11:24:51 up 2 min, load average: 0.16, 0.', and 'WAN IP: 192.168.1.199'. The navigation menu includes Setup, Wireless, Services, Security, Access Restrictions, NAT / QoS, Administration, and Status. The 'System Information' section is active, showing details for the 'Router' (WRT54G, Linksys WRT54G/GL/GS) and 'Services' (DHCP Server Enabled, WRT-radauth Disabled, WRT-rflow Disabled, MAC-upd Disabled, CIFS Automount Disabled, Sputnik Agent Disabled). The 'Wireless' section shows 'Radio is On', 'Mode: AP', 'Network: Mixed', 'SSID: BlueBox', and 'Channel: 11'. The 'Memory' section shows usage statistics: Total Available (12.7 MB / 16.0 MB), Free (3.3 MB / 12.7 MB), Used (9.4 MB / 12.7 MB), Buffers (1.3 MB / 9.4 MB), Cached (3.8 MB / 9.4 MB), and Active (1.4 MB / 9.4 MB).

With this new firmware, your username has changed. The new username is now **root** and password is now **admin**.

You will FIRST want to change that – YOUR username and password and also create a WIRELESS password. Here’s how we do it. Click on the Administration tab and then Management. Change the router Username and Password

The screenshot shows the 'Wireless Security w10' settings page in the dd-wrt.com control panel. The 'Physical Interface w10 SSID [BlueBox] HWAddr [00:13:10:72:F0:60]' is displayed. The 'Security Mode' is set to 'Disabled'. At the bottom, there are 'Save' and 'Apply Settings' buttons.

to what you like (I used my first name as the username and my last name as the password).

Next, turn on your wireless security and set the password by clicking on Wireless tab and then Wireless Security and you want security on.

Wireless Security wlo

Physical Interface wlo SSID [BlueBox] HWAddr [00:13:10:72:F0:60]

Security Mode	WPA2 Personal	
WPA Algorithms	TKIP	
WPA Shared Key	hotmyrealpassword	Unmask
Key Renewal Interval (in seconds)	3600	(Default: 3600)

Save **Apply Settings**

I prefer WPA2 and I used the same password I had before.

Click on Apply Settings

These basic steps apply to any router whose firmware can be replaced.