TOUCHPOINT
INTERNATIONAL DEVELOPMENT GROUP, INC

A Bi-Monthly Snapshot into Emerging Threats and Trends

Digital Update

CURRENT TOPICS >>>

[iRobot Clarifies Its Position On How Roomba-Created Maps Of People's Homes Will Be Used]
-Forbes

[Roughly 175,000 Chinese Internet Connected Security Cameras Can Be Easily Hacked]
-Security Affairs

[Slaver Of WannaCry Worm Charged With Creating Unrelated Banking Malware]
-Ars Technica

CURRENT COURSES >>>

Open Source Intelligence

The Open Source Intelligence (OSINT) course teaches students how to leverage publicly available data sources to gather intelligence on both themselves and potential targets. Students are taught how to use online search engines, people engines, social media platforms and more to gather as much information as possible. Students are given access to our website that hosts proprietary OSINT tools that leverage paid and free APIs. Students will leave with practical knowledge of finding information and linking online accounts.

DD-WRT Router Firmware

Custom firmware for your router

DD-WRT is what should ship on all routers by default instead of the proprietary firmware that manufacturers put on their routers. The default firmware on most routers is very restrictive and doesn't let users have much control over some advanced settings. For instance, most routers allow you to plug in a flash drive or hard drive and share it across your network, but don't offer you very much granular control over how you can share those resources and who can access them. You also don't get very much control over networking settings (of all things) with the default firmware. Most routers won't let you change the power of your wireless networks either. On some routers, you can't even turn off IPv6, which is important if you are using a VPN that doesn't block IPv6 traffic.

With DD-WRT, we have the freedom to do what we want with our routers. If you want to completely isolate your 2.4Ghz network and your 5Ghz network, you can by adding them to separate VLANs. If you want to run an FTP server with multiple users who have their own separate permissions on what they are allowed to access, you can with DD-WRT's built-in NAS settings. You could take it a step further and run an entire webserver on your router with DD-WRT's built-in lighttpd support, which would be useful if you want to run a local copy of your website before pushing it out to the internet. Perhaps one of the best features is the ability to turn on a VPN on the router, both in server mode and client mode. Some routers support VPNs in some form or fashion, but most don't support the OpenVPN protocol, which is the preferred protocol to use (here's why). More information on VPNs on DD-WRT can be found on the third page.

Probably the most important reason for even considering to switch to DD-WRT is it is completely open source and completely based off of Linux. If you want to be able to do whatever you want with the router that you purchased, you won't be able to with the default firmware. If your device is compatible (you can check here), you can wipe off the original firmware and flash it with something a bit more usable like DD-WRT. Most Linksys devices are supported, but you will need to make sure you check both the model and version just to be sure. See the next page for the steps to do so.

NEW COURSES ALERT >>>

Touchpoint IDG is proud to add new courses to its growing catalog of courses. If you or anyone you know is interested in these courses, contact admin@tpidg.us for more details.

NSC RaspberryPi

This course is an expansion of our Non-Standard Communications course and focuses heavily on everything RaspberryPi. Students will learn the insides and outs of the RaspberryPi 3, it's capabilities and how to leverage it to be the ultimate communications platform. Using only free and open source software, students will be able to construct a VPN from the ground up, create a secure file server, a private cloud, or use the RaspberryPi as a secure video/audio server. Students will also be introduced to port forwarding and different means of deploying the RaspberryPi as a standalone server. Upon graduation, students will be able to construct, modify, and deploy a RaspberryPi as a server efficiently and effectively anywhere in the world.

Advanced OSINT

Building on the skills learned in the basic OSINT course, students will be given more in depth techniques to find information on targets. This course will put an emphasis on smart phones, location services, and social media apps such as Snapchat that can be leveraged to give up the location of a target. Students will be taught how to link accounts and find associations between individuals through social media, online accounts, and educated assumptions. It is recommended that students take the basic OSINT class first to gain an understanding of OSINT and the tools used for collection.

EVENTS >>>

Air Force Information Technology & Cyberpower Conference (AFITC)

August 28-30 2017, Montgomery, AL

Air, Space & Cyber Conference

Sep 18-20 2017, National Harbor, MD

Modern Day Marine

September 19-21 2017, Quantico, VA

READER QUESTIONS >>>

Have a specific **question** you would like us to answer?

Have a suggestion for a **topic**?

Want to **contribute** to the digital update?

Let us know at digitalupdate@tpidg.us

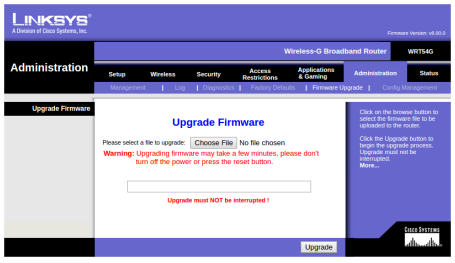
PRACTICAL APPLICATION >>>

Flashing to DD-WRT

It is very easy to completely brick your device (ie. destroy it) by flashing new firmware. Please be careful or buy extra devices. The steps below were tested on a Linksys WRT1200AC, but other devices will work similarly. When flashing, be sure to use a clean browser without any script blockers or other add-ons that may interfere with the flashing process. Plug directly into the router via ethernet, **do not perform these steps over wi-fi. Most of all, make sure you have a reliable power source for your router that will not cut out halfway through the flashing process.**

It breaks down to a few simple steps:

1) Identify your router make and model and download the corresponding bin file for a fresh installation from here: http://www.dd-wrt.com/site/support/router-database
2) Hard reset your router by holding the reset button for 30 seconds, unplugging it (while still holding the reset button) and waiting another 30 seconds, plugging it back in (while still holding the reset button) and waiting for a final 30 seconds. (***30/30/30***)
3) Login to your router and navigate to the administration tab. Find the page where you can update your router (shown in picture). Upload the bin file you downloaded in step one and wait at least five minutes for it to finish.
4) Repeat step two.

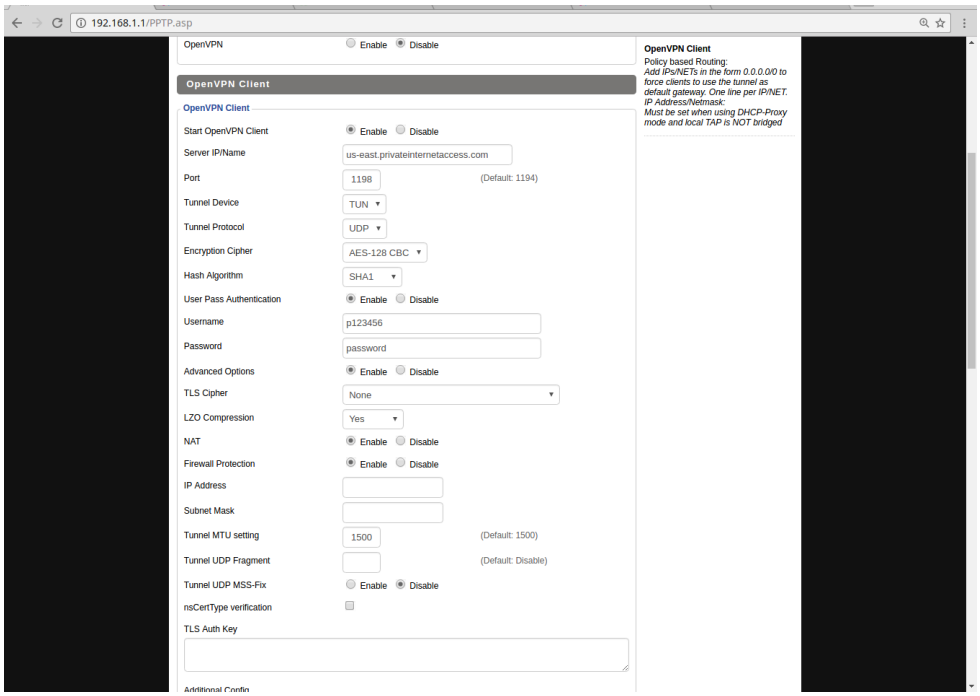


BONUS MATERIALS >>>

DD-WRT PIA VPN Setup

PIA For Your Router

Your router is your last line of defense between your devices and the internet and it should be protected with that in mind. We recently covered (#32 & #33) the settings on a typical router that should be turned off or changed to increase your router's security. On some routers, it is also possible to configure a VPN to always run on your router giving you a transparent VPN connected for all of the devices connected to it. Each device could also run their own VPNs on top of the router's VPN, ensuring that if your VPN connection drops, you would still be protected at some level. This requires a great amount of bandwidth and will significantly reduce your connection speed, but if you have a very fast internet connection, you won't notice.



On DD-WRT, the setup is straight forward: go to services -> VPN, enable the OpenVPN client and input all of the VPN details. Make sure you also download the VPN's CA details and paste it in the corresponding textbox. For PIA, the settings that seem to work the best on DD-WRT are SHA1 and AES-128-CBC. If you want to switch servers, you have to login to the router and change it every time you want to switch, so choose a fast and reliable one.

For a 25% discount on **P**rivate**I**nternet**A**ccess VPN, use this link: TPIDG PIA Discount

Contact admin@tpidg.us for full instructions or view PIA's full guide here:

https://www.privateinternetaccess.com/pages/client-support/dd-wrt-openvpn

UPDATE CORNER >>>

Website Updates

Updates to https://www.tpidg.us for the month of August. For comments or suggestions email admin@tpidg.us

Registration Changes

- Registration can now be done with an access code, making the registration process much faster
- Registration can also still be done with just an email address

Main Page Changes

- Added PIA VPN discount link exclusive to TPIDG students.

Anything you would like us to add to our website?

Contact admin@tpidg.us