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Located in historic downtown Wapakoneta, Ohio, FNGi has been instrumental in developing and supporting Internet Networks across the U.S. since 1993. The FNGi team can assist you with all phases of your Internet Network from initial planning through long-term support.

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FOCUS Newsletter

Moo-over spring, summer is here! This season we are exploring ways that Juniper networking gear is the best fit money can buy. We check out Chromebooks to decide if they are worth the purchase. And speaking of Chrome, we have a trick to keep your install squeaky clean! We're also proud to announce we are now shipping version 6.1.0 of the DHCPatriot and plenty of other goodies.



YOUR CONNECTION TO FIRST NETWORK GROUP NEWS

July— Sept 2017

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Juniper Networking Solutions

First Network Group's IT Services department specializes in building solutions for all of your server and networking needs. We provide custom solutions based on tried and true building blocks

In this issue of FNGi Focus, we are highlighting Juniper Networks.

Juniper Networks offers industry-leading networking solutions ranging from small business to enterprise to high-end internet carriers.

Their products cover the gamut of networking needs from simple switching to high-end routing to security. Juniper offers many software-based and virtualized solutions in addition to hardware platforms for added flexibility.

Juniper's platforms all run the same operating system, which makes management much simpler than many competitors. There are also numerous features in the configuration interface that make it easier to manage. The layout of the configuration files are easy to read and comprehend. There is also an automatic rollback feature to prevent configuration changes from locking you out of a device. These are just a couple of examples.

First Network Group's own infrastructure is built on these same Juniper platforms. We try to keep our infrastructure as close as possible to the same layout as our clients' network in order to have a more in-depth working knowledge of the complete solution.

Juniper's latest MX routers, EX switches, and SRX firewalls have been instrumental in many recent projects with which First Network Group has been involved. We have assisted several rural ISPs in upgrading their entire infrastructure to enable 10 Gigabit Ethernet and beyond to support growing fiber deployments with faster internet speeds, IPTV, and other advanced services.

Generally speaking, Juniper offers solutions that outperform competitors at similar price points, while offering greater flexibility and scalability. Juniper's J-Care support offerings provide world class hardware and software support at extremely competitive prices.

Each of Juniper's platforms have many different features to provide redundancy and availability. First Network Group can help you build a network that can withstand hardware failures and even firmware upgrades with little to no effect to customer traffic.

Juniper is one of First Network Group's key hardware partners that enables both our infrastructure and our customers' to provide the best possible services with the highest availability. Whether you are looking for a simple firewall, a 12-port managed ethernet switch, a massive datacenter firewall, or a carrier-class router capable of 20+ Terabits per second of throughput, Juniper has a solution.



Update to Protect

In May, we saw a near-global cyber catastrophe with the release of the ransomware WannaCry/WannaCrypt. Ransomware is a type of malware that restricts access to the infected computer, demanding a fee (ransom) is paid to regain access to the system. This attack exploited systems both small and large, government and private, corporate and home users. What did these systems have in common? The vast majority of infected systems were running Windows 7. Newer Windows installs had been provided with a security patch in system updates (if installed.)

I have addressed this issue before, but it obviously bears repeating: basic cyber security demands that all system software is kept current! Out of date software (including patch-level) always be vulnerable to exploit. This applies to all operating systems: Windows, Mac and *nix (Unix/Unix-like). If your systems are not kept up to date, you have a huge hole in your security regardless of the rest of your security policy.

-- Stephen C. Walter

Remote Help?

Did you know that part of the End-User Technical Support services you already receive from us, includes our remote assistance feature for free?



We've always known that helping a user directly is the best way to correct an issue, so in 2010 we designed and deployed our remote assistance software. This secure and lightweight software is any easy to download and run for any user and allows us to view and manipulate the customer's computer with them in real time.

The biggest surprise of using this tool was not the ease and speed of resolving a customer's issue, but using it as a way to educate customers to features of their computer or websites one-on-one and

Google Chrome Cleanup

Google's Chrome web browser is the world's most used web browser. It's also one of the safest you can use. Google has baked in many protections to keep malicious or annoying software from being installed as an Extension that may change Chrome's behavior in unintended ways.

However nothing is perfect. If you feel your Chrome is misbehaving or may have a malware or spyware or hijacker installed, you can run the Chrome Cleanup Tool from Google.

Download and run it at <https://www.google.com/chrome/cleanup-tool/> or do a Google search for "Chrome Cleanup Tool".



Chromebook Pro's and Con's



Store.

Pro: Fast boot times and well known interfaces. If you've used the Google Chrome web browser or an Android-powered phone, you will feel right at home with a Chromebook.

Con: Limited hardware available. Many times the hardware specs of Chromebooks will be much lower than full-fledged laptops running Windows or Mac OS. However, Chrome OS and applications are so lightweight, that the hardware they ship with is more than capable.

Pro: Android Applications are coming to Chrome OS. Google is working on integrating Android apps that run on your phone or tablet to run inside of Chrome OS. Moving from one device to another will continue to become more and more seamless.

Con: People heavily integrated into the Apple ecosystem will find very few options on how to interact with their Apple-based applications and sign-in options.

Chromebooks can be very powerful devices when utilized correctly and for the majority of day-to-day uses

Robots in the Attic

A question for the tinkerers and Makers among you and for those of you catering to the makers in your customer base: Do You Have a Robot in Your Attic?

You may look at old computer and A/V equipment (VCRs, cassette players, out of date computers) and see a pile of junk. Hobbyists interested in IoT (the Internet of Things) see power supplies, LCD displays, motors, gears and a raft of components that can be used in robotics and all manner of other projects. Where do they get their inspiration? Check out ...

The Ben Heck Show at Element 14, <https://www.element14.com/community/community/experts/benheck> Articles and projects at Makezine (<http://www.makezine.com>) Or the educational videos by engineer Limor "Ladyada" Freid on Adafruit (<http://www.adafruit.com>)

Your local "maker" community may be your most loyal customer base and the source of your future employees! Enjoy your summer, be safe and ... Make!

-- Stephen C. Walter

Version 6.1.0



DHCPatriot 6.1.0 has been released! It will begin arriving on systems on June 1st, 2017. DHCPatriot administrators will soon be able to start collecting session data for DHCPv6 sessions and a whole host of other improvements. I don't want to get into too much detail here as last quarter's newsletter article was all about the upcoming features in 6.1.0. Also, patch notes are available on our website. So, where do we go from here?

There are some limitations to the DHCPv6 support in 6.1.0 and we plan to address those in 6.2.0. First among these is sticky IP support. Sticky IPs are IP addresses that are assigned to either a username or device (by MAC address) that cause the device to be assigned the same IP address each time they ask for one via DHCP. Presently, this feature, although present in DHCPv4, is not present in DHCPv6.

Secondly, MAC addresses are missing from the recorded DHCPv6 sessions. It probably won't be possible to record mac addresses in all circumstances. In 6.1.0, we are currently not recording MAC addresses at all, even when it would be possible. In 6.2.0 we will begin recording MAC addresses with the session whenever it is possible to do so.

View address usage has been added to DHCPv6 reports in 6.1.0. This report is very similar to the report of the same name in DHCPv4. In this version, there are no graphs included with the report, however. Graphs in view address usage under DHCPv6 will make an appearance in 6.2.0.

Lastly, we plan to support captive portal authentication in DHCPv6 just as we do in DHCPv4. However, this feature did not make it into 6.1.0. We will be adding this feature in 6.2.0. We want to make every effort to not require authentication at both the DHCPv4 and DHCPv6 captive portals. We will employ several techniques to attempt to apply authentication to both DHCPv4 and DHCPv6 at the time of authentication.

Likely for patches to come there will be new DHCPv6 content each time. We are working very actively in this area and are excited by the opportunity to work on this technology.

Did You Know?

For the first time since Windows became available in retail channels (think Windows 3.11), it is no longer the most used operating system on the planet.

According to StatCounter, in March 2017 Google's Android operating system became the first and only operating system to overtake Windows at a 37.93% market share to 37.91% of all Windows platforms.

