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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.

www.network1.net
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FOCUS Newsletter

Summer is finally in full swing! But the allure of blue skies, warm air and sunshine still spurs on access to technology. As we are ever more in a mobile-first world, it's ever more important to make sure the technology is there to support any and all devices and platforms.

In this issue, we discuss how important the weather is to our monitoring services, the future of Microsoft's next Web Browser, more DHCPatriot API examples and much more.

YOUR CONNECTION TO FIRST NETWORK GROUP NEWS July — September 2019

In This Issue

The Future of Microsoft Edge

With the release of Windows 10, Microsoft announced they would be shipping a brand new web browser called Microsoft Edge. Windows 10 also shipped with Internet Explorer 11 for people and companies who have very specific use cases that still require Internet Explorer specific technology.

Microsoft, however, made it clear that Microsoft Edge is the future and was their option for "the rest of us" - meaning those of us who don't have to interact with web software that still requires Internet Explorer technology. Their effort was to have a full Microsoft browser built from the ground up using their EdgeHTML web rendering engine and V8 javascript engines.

While alternate browser engines are important for the overall health of the web, Microsoft has faced a tough uphill climb to get users on board with Edge. Microsoft's improvements and features built into Edge work really well, but it may have been just too little too late.

As you are probably already personally aware most users have long since moved onto Mozilla Firefox and mostly to Google Chrome's web browser. And people tend to not want to give up software that they've become used to, and have made their home. So the high market share of Google Chrome is a hard mountain to climb even for more established browsers such as Firefox, let alone a brand new browser in Microsoft Edge.

Microsoft's evolution over the past five years has seen a company that was staunchly against open source software and culture to embracing the open source world more. They realized that software developers and regular users have moved beyond the confines of the traditional "closed" source model of software. This new perspective and the facts that the first iteration of Microsoft Edge was not making any real headway, they decided to take a drastic step.

Instead of continuing to throw money at software development for a browser no one was using, Microsoft has decided to shift and adopt the Blink web-rendering engine and V8 javascript engine used by the open-source Chromium browser that Google Chrome is based on. This was a shock for many and will require considerable effort on Microsoft's part to not only rebuild a Microsoft branded and distinct product on top of Chromium but also continue to accelerate user adoption.

The good news is that Microsoft can now contribute to the open-source component of Chromium and like all open-source products, the more developers the better and everyone benefits from the net result. The bad news is that this then aligns an even higher number of web users behind a single set of rendering engines. Firefox is the last major web browser not based on the Chromium open-source platform. And for those of us who remember back to when Internet Explorer ruled the web landscape, we know how detrimental it was to have a large number of users behind a single browser platform. Internet Explorer was and is closed source, so hopefully the open-source browsers of choice will not see the web suffer some of the same issues as back then.

Look for Microsoft Edge powered by Chromium on many of your devices very soon. It has already been released in early developer preview builds for Windows 10 and eventually will be usable on any device that can currently run Google Chrome.

FNGi
First Network Group Inc

From the Desk of *"The Network Guy"*

HOW'S THE WEATHER?

Talking about the weather is a common euphemism for chatting about something inconsequential, usually to start or advance a conversation. Yet the weather can be significant to delivering your services and to your customer's needs. From power outages to rain fade, weather can erode service quality or even availability.

First Network Group Technical Support monitors the weather to better prepare our support for your network and your subscribers. While FNGi Tech has always been weather conscious, we also have deployed larger screens that are dedicated to Network Monitoring and to mapping Weather and power outage maps for our customers. These screens increase the visual queues for network outages and threatening weather - increasing awareness throughout the department.

Wapakoneta and many of the surrounding communities recently experienced an extended power outage caused by some of the 20 tornadoes that swept through Ohio. Thankfully, our own total-facility standby generator kept us up and running during the outage. Not all sites were as lucky as there were remote huts in the area that were without power and at least one that was totally destroyed.

Thinking about the side effects of dangerous weather? We're watching for you and FNGi Tech Support has you covered.

Sincerely,

Stephen C. Walter
The Network Guy
Founder and President, First Network Group, Inc.

Optical Networking Solutions

First Network Group, Inc. offers our own line of FNGi-branded optical networking components

This includes optical transceivers for 1G, 10G, 40G, 100G, and beyond; as well as CWDM and DWDM solutions and cabling.

Our transceivers are sourced from major manufacturers (the same ones that make the OEM-labeled products) and programmed and tested by one of the leading suppliers in the industry. Custom programming allows these modules to appear the same as OEM models to switches and routers. We can provide direct replacements for existing OEM models. In some cases, we can offer similar models that exceed the distance specifications, or use different wavelengths.

If you have more complex needs, we have CWDM and DWDM mux/demux options, as well as a variety of custom cabling and patching solutions. CWDM and DWDM allows many separate connections over a single fiber strand or a pair of fibers. This can significantly relax the demand for fiber strands and open up additional opportunities for services and redundancy.

Our optical transceivers have a lifetime warranty. We also provide a full catalog of optical cabling, as well. A variety of lengths, fiber types, and connectors are available.

Let us know what your needs are and we will find a solution that fits!

Contact Randy Carpenter for more details and for a custom quote.

rcarpen@network1.net
1-800-578-6381, option 1

Partner Spotlight

A company of innovators, Juniper believes that creating simplicity through engineering is the highest form of innovation. From their first release, the ground-breaking M40 router, to today's end-to-end advancements in network security, automation, performance, and scale, their drive to move beyond the constraints of complexity has expanded the reach of networks everywhere.

They've enabled networks to connect to everything and empower every-one in ways that have literally changed the world.

API Example: Abuse complaint tools with the API
authenticated / standard / known client

This article is the third in a series about the API functionality available in the DHCPatriot and how it can make the management of your subscribers more streamlined. The DHCPatriot system has a rather extensive API system for automated remote management. Our API documentation is available in the DHCPatriot manual at our website http://www.network1.net.

This article will explain how the API may be used for abuse complaint resolution. Specifically, it will describe how the API may be used to identify offenders for further action given only an IP address and time period.

Most ISPs today are familiar with the automated emails from various companies that work for either the film or music industries. These automated emails may be quite numerous depending on the size of the ISP and the average age of their subscriber base. For example, an ISP that serves mostly university students will probably receive more of these emails than one that serves older rural farm communities. Depending on the volume of these email complaints, they could require one or more employees to be dedicated to just this task. The API can help out with this by making the process quicker through automation.

Only one API call will be needed for this task: Remote Search (page 87 in the manual). This API call lets you supply an IP address, and a start and end time (in EPOCH seconds) between which to search. The results are returned in XML format. Following is an example of how this may be used in practice in combination with other ISP records.

Lets say an email is received complaining that 203.0.113.12 was sharing Game of Thrones episode 3 of season 8 on May 10th at 14:00 UTC. Without a web application setup to use the DHCPatriot API, an employee would first have to log in to the DHCPatriot system and search for the session record that corresponds to that IP and time. Then they would have to take the resulting information and go to another system (such as a billing system) and discover who the customer is. Then they would need to compose and send an email warning the customer (or perform further action if this is a multiple offender).

If an application has been developed that is using the DHCPatriot API as well as an API to the billing system or similar that would let the customer be immediately identified. All the employee would need to do would be to drop the IP address in a search box and select a date. The application could then send a search encompassing that IP address for 00:00-23:59 UTC on that date. It would even be possible to retrieve an email address and automate a warning process. Perhaps even keep track of the number of offenses and take action accordingly; all automatically. This would streamline the process letting a single employee rapidly deal with many abuse complaints.

— Darren Ankney
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5g Confusion

We are about to turn a corner in cellular data transmission with the introduction of wireless 5G devices. Most major cell phone carriers have already begun rolling their 5G test networks in limited markets to test capacity and usage.

But what is 5G and didn't it used to be "5GHz"?

In common tech terms, 5G, stands for the fifth generation of the modern cellular transmission technology. And while you might be familiar with the term "5g" or "5GHz" they are not the same.

- 5G is 100% cellular service based. 5G cellular network connections can theoretically reach 20 gigabit speeds.
- 5GHz is a radio frequency band used only on wireless routers. The limit of the current 5 gigahertz (gHz) Wi-Fi is 433 Mbps to 1.7 Gbps.
- 5GHz refers to a specific Wi-Fi network radio frequency that connects your devices to your local wireless router.

Something to keep in mind over the remainder of 2019 and going forward when customers are asking about "5G" networks. As more of these networks come online and the technology is discussed more in the news customers will be curious and have questions. They may mistake what they hear about (cellular) 5G and mistakenly believe their router has 5G and they are not getting the speeds or service they think they should be. The short-hand way of saying "5G" and meaning the 5 gigahertz WIFI might start getting more confusing pretty soon.