# FNGi
## First Network Group Inc

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**
**800.578.6381**

## FOCUS Newsletter

In this newsletter we bid farewell to 2017. We take a look back at the major milestone of taking over one MILLION technical support calls. We talk about how to protect from and report scammers. We dive into our optical networking products and discuss Option 79 as part of DHCP version 6.

# FOCUS

# MILL1ON
## WE ARE PROUD TO ANNOUNCE 1 MILLION SUPPORT CALLS

I hope my message finds you enjoying the end of a safe and happy summer and welcoming Fall and the approaching holiday season.

We have enjoyed an eventful Summer at First Network Group. In July we celebrated our 22nd Anniversary. Also in July, the FNGi Technical Support/Customer Care team handled its ONE MILLIONTH Technical Support call. In reaching this astounding milestone, it has been our absolute pleasure to serve you and your customers. We know we wouldn't be here without you. Thank you.

Many of you used FNGi Technical Support/Customer Care in the Nineties when we only did Internet Support services, and many of today's customers have been with us since that beginning. I would also like to welcome our newest customers in Texas. Today, our Support team offers support for Internet access across any style of transport, software support for all major browsers, mail clients, and other internet-related pieces of software, Telephone, TV (CATV and IPTV), Security Systems, CALEA exigent / Law Enforcement Requests, customer service, bill pay and more!

FNGi can provide customized professional support for all of your products and all of your customers - 24 hours a day, seven days a week, in any time zone. To add new services to our existing relationship, or to get a quote for service customized for your needs, please contact Cory Lykins at coryl@network1.net or 1-800-578-6381 x6.

I wish you all continued health and happiness, and extend our best wishes for the continued expansion of your customer count and customer satisfaction in the season to come.

Sincerely,

Stephen C. Walter
Founder, President and CEO

## FNGi-branded Optics

First Network Group, Inc. now offers our own line of FNGi-branded optics. This includes the common SFP optical transceivers, as well as SFP+, XFP, CFP, and more. These 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. No more having to issue special commands to get non-original SFPs to function.

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. Examples include 100+km distance support, Bi-directional optics that use only 1 fiber, and DWDM models. 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.

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

rcarpen@network1.net or 1-800-578-6381, option 2

## On One Million Calls …

"In July 2017, we logged our one millionth call. We've always said, we could support Internet, TV, telephone or whatever, but at the heart of it all was the desire to help make someone's life easier and more enjoyable through the use of technology.

Thank you for being part of this journey with us."

-- Cory Lykins, Vice President of Tech Services.

## Avoid & Report Tech Scams
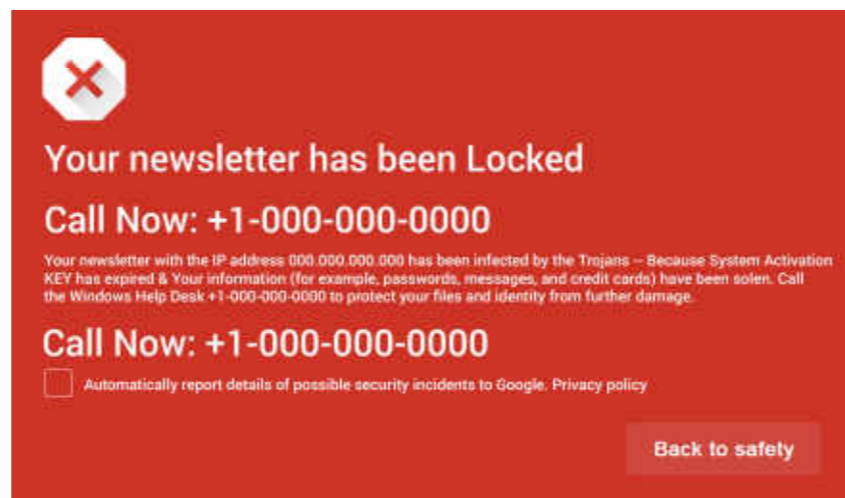


Some of the most confusing and successful scams to come to computers has been the fake technical support / virus infection scams.

It's quite common to know at least one person who has received one of these fake calls or emails and nearly fell for the trap. That speaks to the level of sophistication that these scammers are able to achieve and the scare tactics they use.

The best advice to avoid being scammed is to remember:

1. Microsoft, Apple or any other tech company will never call or email you unless you contact them first. Your computer will not contact them on your behalf either. If you didn't ask for a call or an email response, it's a scam.

2. Never feel pressured to resolve the issue that they are claiming is a problem. The goal is to scare you into making a decision to move forward with the scam. Turn the computer off. Delete the email. Hang up the phone. You are always in control. If you are worried about there being a problem on the computer, you can call a trusted person or company at a later time. Nothing is as urgent or horrible as they will make it sound.

3. Do not give out personal information or bank / credit card information over the phone or via email to anyone you do not know. This is especially true if they contacted you first and out of the blue.

If you've been contacted by one of these fake technical support / virus infection scams, here is how to report it.

1. Find a trusted person or company to check out your computer just to make sure everything is clear.
2. Report the scam to Microsoft: www.microsoft.com/reportascam
3. Report the scam to the Federal Trade Commission: www.ftccomplaintassistant.gov

## Did You Know?

Our Customer Care / Tech Support services are fluent in using Innovative Systems APMax IPTV video solution to support your customers. If you are using APMax to provide IPTV to your customers, we can utilize your current system to deeper support for your customers 24 hours a day - every day!

For more information contact Cory Lykins coryl@network1.net or 1-800-578-6381 x6

## DHCPv6 and Option 79



Under DHCPv4, the DHCPatriot system was able to easily show the client MAC address. This could be used throughout the interface as an identifying detail. This also meant that the MAC address could be used to locate a subscriber device physically on a switch or other equipment.

Under DHCPv6, the MAC address was not included in the DHCP packet. Instead, a DHCP Unique Identifier (DUID) is used. Each client will create and use a (mostly) unchanging DUID. This could not be used to locate subscriber devices on networking equipment, unfortunately. It also cannot be used to correlate the DHCPv4 and DHCPv6 client records.

To correct this problem, RFC 6939 (https://tools.ietf.org/html/rfc6939) was written. This RFC allows the first hop DHCP relay agents to provide the MAC address (Client Link Layer Address) while relaying the DHCP packets to a DHCPv6 server. This RFC has been accepted for publication by the Internet Engineering Task Force (IETF) after making it through the DHCP Working Group. Option 79 was assigned by the Internet Engineering Steering Group (IESG) for this purpose. This lets the MAC address be accessible to the DHCPv6 server.

The realization for the need of this implementation came after most manufacturers had implemented their DHCPv6 relay agent implementations. It did help that the original authors of RFC 6939 were employees of Cisco. So far, it is known that Cisco has implemented support for Option 79 in recent version of IOS XE firmware. Cisco devices that run IOS XE stand a good chance of supporting Option 79. Some Brocade devices (such as their recent switches) support DHCPv6 Option 79 in their relay agent implementations. Official support for Option 79 from other vendors is not known at this time. As always, check with your vendor to ensure that the device you intend to purchase has the features you need.

-- Darren Ankney
VP of Product Development