

# HAPPY ANNIVERSARY FNGi

July marks 17 years as an incorporated company for First Network Group, Inc. Instrumental in developing the first Bright.Net network (Ohio), FNGi manages Internet Networks and offers products and services across the entire United States.

FNGi has been developing and supporting Internet Networks since 1993, incorporating in 1995. A specialist in building and maintaining Internet Service Provider Networks, FNGi has been located in historic downtown Wapakoneta, Ohio for the past 17 years.

"We are all very proud of this accomplishment and thankful to our customers and employees who have helped us achieve this significant milestone," commented President and CEO, Steve Walter.



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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](http://www.network1.net)  
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# FNGi FOCUS

YOUR CONNECTION TO THE LATEST NETWORK NEWS.

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Instrumental in developing and supporting Internet networks across the U.S. since 1993.

## CUSTOM SOLUTIONS USING STANDARD BUILDING BLOCKS

First Network Group's IT Services department specializes in building solutions for all of your server and networking needs. We specialize in custom solutions based on tried and true building blocks such as NetApp storage and Juniper Networks routers, switches, and firewalls.

NetApp provides the ultimate in centralized storage, vital for server virtualization, high availability, and disaster recovery. NetApp has a single operating system, which runs across their entire line of enterprise storage devices. This is in contrast to many competitors who have several product lines running different software, and it greatly reduces the complexity of configuration, making management much easier. NetApp's systems provide storage access via NFS, iSCSI, and Fibre Channel protocols. There is a wide range of systems from small enterprise systems, to large, multi-rack systems that can serve thousands of servers. All systems are available with a High-Availability option, which adds a redundant controller to prevent outages caused by controller failures. Software features include point-in-time data snapshots, and replication to remote sites for backup and recovery.

Juniper Network solutions are a perfect choice for your needs. Juniper's core routers power a significant portion of the Internet backbone. The same technology that is in use on their big core routers is available in their smaller routers and other networking devices as well. Like NetApp, Juniper has a single operating system across their entire line of routers, switches, and firewalls. This makes the systems more secure, and simpler to manage. Juniper's support is second to none, and available at very reasonable prices (generally less than half the cost of competitors).

Let First Network Group, Inc. assist you in specifying your storage or network needs, install the gear, and maintain it going forward. No experience needed on your part. In many cases, you don't even need to have somewhere to put it. We can host it for you. For more information, call Randy Carpenter, VP of IT Services at 1-800-578-6381, option 1.



## BEYOND THE WEB

*“...the Internet has exploded and moved beyond the classic desktop computer.”*

In the past, the core uses of the Internet were web browsing and e-mail access. While there were always various other programs and services available online, it hasn't been until recently that the Internet has exploded and moved beyond the classic desktop computer.

Years ago, a typical user would come home and sit at a desk, check e-mail and maybe do some light web browsing, but now the Internet is more interwoven into our daily lifestyles than ever before. Text messaging with your children confirms that they don't need a ride home from school, while apps help you keep your shopping lists organized and on budget. Movie and television shows stream wirelessly directly to TV's from various web sites or IPTV solutions and video gaming platforms have become Internet powerhouses.

If users follow new technology then technical support certainly follows the users. At First Network Group, we pride ourselves at staying on the cutting edge of user's needs. We have always supported all major operating systems on traditional PC's and laptops, but as users have moved to other Internet-enabled devices, our support solutions have expanded to meet those needs as well.

Our technicians are trained in the setup and maintenance of home networks on CPEs or off-the-shelf networking gear to allow multiple points of access for virtually any device. We support the Nintendo Wii, Sony Playstation, and the Microsoft XBOX 360, and we provide assistance with online gaming sites. We provide easy and accurate solutions for tablet computers, ultrabooks, eReaders, a multitude of cell phones, media streaming devices such as Roku media streamers to Internet-enabled televisions, and other home theater components, everyday.

A large market segment is enjoying media streaming services for television shows and movies. Netflix, for example, is available on any traditional web browser but it is also available on over 800 different models of compatible devices that have increased from 450 models just 6 months before. Over the course of 2011 studies show that streaming services such as Netflix consumed an average of 20 to 25% of all the bandwidth in the United States. Netflix, Hulu, YouTube, and other streaming content providers are surging ahead to every screen a person accesses.

Web browsing and e-mail are still the core uses of daily Internet life but the Internet is a much broader and expansive universe of technologies than it was ten years ago. Daily usage amounts have also steadily increased as well and without support for new devices and technologies, users will migrate to other options for access. With First Network Group's technical support services, we have you covered with our support solutions for hundreds of CPE and networking devices, a dozen different mobile operating systems and thousands of versions of software.

## DEPARTMENT EXPANDS TO MEET GROWING CUSTOMER NEEDS

First Network Group, Inc. is pleased to announce the recent growth of its Product Development department to better align itself with new client opportunities. Michael “Wulf” Wulfhorst joined the Product Development department July 1 as a Product Specialist where he is assisting with the operation, testing and diagnostics of our popular DHCPatriot, platform as well as other Product Development solutions.

“It is our great pleasure to add Wulf to our Product Development department. This addition increases the depth and breadth of Product Development, expanding the resources available to customers of the increasingly popular DHCPatriot DHCP management platform,” remarked Steve Walter, President and CEO, First Network Group, Inc. “The demand for the DHCPatriot in Fiber To The Home (FTTH) deployment, combined with the Patriot's popularity with ISPs, required us to expand to meet growing customer needs.”

Michael “Wulf” Wulfhorst started at First Network Group in 2002 as an entry-level support technician in order to use his computer knowledge and skills professionally. This was Wulf's first chance to apply his know-how in the tech industry since studying Network Administration at Rhode's State College.

Wulf's love affair with technology began at the age of 12. His first computer, a Commodore 64, quickly became his passion and he was engrossed with the possibilities of programs and games the platform afforded him. As his new hobby grew, so did his collection of computers and in 1995 he accessed the Internet for the first time and has not looked back since. He has been fascinated with the history of very complex systems like ENIAC turning into mere household items and then for a nearly ubiquitous household item to merge with the Internet and be used as a means to unite the globe.

Since joining First Network Group, Wulf has received numerous awards and quickly attained the rank of Senior Technician. As a member of this elite group of technicians he has been responsible for maintaining operational support for all Tier 1 technicians, as well as creating and maintaining support documentation and reporting.

The DHCPatriot is an easy to use, stable platform for management of general purpose DHCP networks. The DHCPatriot also offers authenticated DHCP in broadband subscriber, IPTV, cable modem or traditional networks. For additional information visit our website [www.network1.net](http://www.network1.net).

## A WORD ON IPV6

IPv6 offers many ways of assigning addresses to network connected equipment. These methods consist of: statically entering address on the interface, Stateless Automatic Address Configuration (SLAAC), Point to Point Protocol over Ethernet (PPPoE), and Dynamic Host Configuration Protocol version 6 (DHCPv6). The focus of this article is an overview of DHCPv6.

Most current clients that support IPv6 will have at least two modes of operation that can be set: manual and automatic. When a client is set to automatic, it will ask the local router using a special (IPv6) method called Router Announcements (RA) what kind of method should be used to obtain or set an IP address on the client's connected interface.

At this point, the client has already established communication with the link local network. The link local network is a special network that each host becomes a part of just by having IPv6 enabled. Addresses are created based on the MAC address on the connected interface of equipment connected to the network. Devices on the network can communicate with each other via these addresses. The gateway for the client will be set to the router's link local address.

The router, if configured to do so, will tell the client to get its address via DHCPv6. The client will then ask the DHCP server for an address via a special local multi-cast address (To simplify we will assume a local DHCP server). The DHCP server will give the client an address to use for a specified time.

The client, if it needs to provide addresses to equipment connected to it on another interface (such as is the case with a customer home router), may also ask for a prefix delegation. Prefix delegation refers to assigning a network to be used by a router on the local network for connected devices on another network. This is necessary because one-to-many NAT is no longer available in IPv6 and all equipment that needs Internet access must have a “globally routable” (in IPv4 language, a “public”) address. Please note that most customer equipment (and much of the carrier equipment) is not ready to deploy IPv6 at this time.

For consultation on your migration to IPv6, please contact Darren Ankney, VP of Product Development at 1-800-578-6381, ext. 8171, or [dankney@network1.net](mailto:dankney@network1.net).

