FNGi
First Network Group Inc

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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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800.578.6381

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FOCUS Newsletter

It's spring time once again! And in an industry filled with so much growth and change, it can tend to feel like spring all the time. In this issue we review NetApp storage solutions. We begin to wade into the waters of Internet of Things (IoT) security. New features are making a debut on a DHCPatriot upgrade and we talk First Call Resolution.

FOCUS

20 years
Proudly Serving Our Customers

In This Issue

NetApp Storage 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.

For this issue of FNGi Focus, we are highlighting NetApp storage.

NetApp provides the ultimate in centralized storage, vital for server virtualization, high availability, and disaster recovery.

NetApp®

NetApp's storage systems provide storage access via NFS, iSCSI, and Fiber Channel protocols. There is a wide range of hardware options from small enterprise systems, to large, multi-rack systems that can serve thousands of servers. Entry level systems are very price competitive and offer the same availability and software features as the high-end flagship models.

Redundant controllers provide protection from hardware failure while the clustering capability allows for easy expansion and migration. Both of these features combine to give you uninterrupted access to your data. Software can be updated with zero downtime in most cases and storage capacity can be added or removed without affecting the availability of live data.

Software features include point-in-time data snapshots, unparalleled performance, and replication to remote sites for backup and recovery. Unlike most of the competing systems, snapshots on NetApp are nearly instantaneous, do not degrade performance, and are instantly available from which to restore your data. NetApp's SnapMirror replication technology provides a simple way to have a remote copy of your data for disaster recovery. By copying only the changes in data, the bandwidth needed to transfer ongoing updates is minimized. Replicated data can be made live with little effort, which makes this feature even more valuable.

First Network Group has been a NetApp Partner for over 10 years and NetApp remains one of the key hardware partners that enables both our infrastructure and our customers' to provide the best possible services with the highest availability.

For more information on NetApp or any other server or networking needs, call Randy Carpenter, VP of IT Services at 1-800-578-6381, option 1.

IoT & Security

I often promote the increasing popularity and value of the Internet of Things (IoT.) Recently, there has been news about the IOT and security. Specifically, articles about how intelligence agencies and hackers, both foreign and domestic, exploit weaknesses in the software of IoT to increase surveillance on an unsuspecting public. Should your customers be concerned? Perhaps. Is there a guaranteed solution? No. But your customers can minimize risk with the same "best practices" that you should use to keep your network secure and running.

Beyond using passwords and basic security, the most important thing you and your customers can do is keep software and firmware up to date. That sounds simple enough, yet too many ignore this basic yet necessary step. Exploits, like the ones recently reported, find flaws in specific code (applications, Operating Software or firmware.) Code updates are often issued specifically to address such flaws, once known. Staying current on updates can help keep you one step ahead of the legion of "black hats" who want to exploit your network or information.

Devices from your customer's IP camera or Smart TV, to personal computers, your routers and other network hardware, and especially your servers must be kept up to date if you want even the most basic safeguards from the disasters of hacking. IT and security professionals keep track of such exploits and the patches and updates needed to repair them. The First Network Group Information Technologies division specializes in keeping your equipment up to date as a routine part of providing Server and Network management services. Unsure of the update status of your Network? Contact Randy Carpenter VP of IT Services at 1-800-578-6381, option 1 to arrange an analysis of your Network today.

-- Stephen C. Walter
Founder, President and CEO
First Network Group, Inc

Did You Know?

On April 11, 2017, Microsoft will pull the plug on its support for the nine-year-old OS. After this date, the Redmond giant will no longer provide security patches or hotfixes, and support options will not be available to its users.

First Call Resolution

When a customer is calling for help with their computer, connection, phone, TV or any service they expect the call to be resolved easily and with a single call. First Call Resolution (FCR) is not only an important customer service concept, but it helps to maximize overall call production.

FCR is quite difficult to measure. If customer calls in with issue X and is resolved. The same customer calls back with a simple question about issue X, was the first call truly resolved? The issue may have been but the customer's overall perception of the issue may not have been. Another situation might involve a customer calling in with issue Y. The correct procedures are applied to resolve that issue and the call is ended. In this case though the customer may experience issue Y immediately afterward but the customer doesn't call back about it. So while the data point shows this as an FCR, you can't truly be sure.

Don't get bogged down in the idea of measuring FCR with 100% effectiveness. It just won't happen. Focus instead on what it will take to get your FCR number to 100% IF you could truly measure it.

Focus on your team and their output. Constantly examining and refining your process for effectiveness and efficiency will certainly impact FCR overall.

1. Listen to and Empower Your Team

Sit down with your team as a group and one-on-one and talk to them about their calls that they take. Spend this time listening to the kinds of issues they are experiencing on their calls that slow them down, parts of the process that frustrates them or speed bumps in their work flow. Knowledge is power. The more information your team has access to and the faster they can access it makes all the difference. Make sure you foster an environment where all knowledge is shared as a group resource and not hoarded. Make sure the knowledge is in an easily accessible way for all employees.

2. Escalate the Customer

Have a system in place where the customer can be escalated to the next step in the process on the same call. This requires your first responders to be well versed to make sure all options have been exhausted before the hand-off. The hand-off should also contain all the data for the next person to hit the ground running and not need to rehash basic data. Making a hand-off list that needs completed prior is a great way to stay organized.

3. Ask Questions

You will encounter issues that you are not sure about and you are left to follow written instructions or quickly learn about concepts in the heat of the moment. That's fine, but make sure you ask follow-up questions after. If you don't understand the solution you're providing then ask questions afterwards. If there are parts of the service you're not familiar with then ask about them. We all learn in different ways and some concepts are harder to grasp than others, but the first step is to ask questions. Learn something new every single day. There's a lot out there to know, you won't run out.

The best customer service and support comes from the best team. While FCR is a great number to attempt to improve it's vitally important to not get bogged down in the minutia of attempting to track it with 100% accuracy at the expense of spending time with your team.

Our goal at First Network Group is to provide the best service and support to our customers and our customer's customers. This article is a simplified view of one of the approaches that has contributed to our success over the past 20 years.

Version 6.1.0

As you are reading this, version 6.1.0 of the DHCPatriot software should be nearing release. We continue to update the product to provide easier maintenance, more features and rock solid stability. This version will have enhancements to both DHCPv6 as well as authenticated DHCPv4. It also contains various performance enhancements that should allow for increased performance in large deployments. Lastly, various new features and fixes for the API have been implemented.

DHCPv6 is creeping ever closer to being a requirement in many ISP networks. As such, we continue to enhance DHCPv6 features in the DHCPatriot system. This version brings with it session storage for DHCPv6 which will track what devices used what IP address when. It also supports sessions for Prefix Delegation, which is important as most user traffic will be coming from a delegated prefix rather than a single IP address since IPv6 does not use NAT as IPv4 did (see http://www.network1.net/products/dhcpatriot/documentation/PDFs/v5.1.0Primer.pdf or scan the QR Code at the end of this document for further information regarding DHCPv6). Also, this version will include View Address Usage for DHCPv6 which will show the number of addresses used in assigned subnets (usually a /64) but not the number of addresses in the subnet (18 quintillion in a /64). Prefix Delegation setups in each network will be fully tracked with the number used, the total number available and a percentage used similar to the way subnets are tracked in DHCPv4 (these will be in the hundreds or thousands in most deployments, and may be somewhat constrained, and so can and must be fully tracked). No authentication or graphs will be available for DHCPv6 as yet, these features are scheduled for version 6.2.0. New this version, an IPv6 VRRP (floating IP) may be added to the DHCPatriot system for web administration (and authentication, in the future) purposes.

We've made improvements to authenticated DHCPv4. Prior to version 6.1.0, when a user authenticated a device, the DHCP server had to restart to complete the process. This could lead to missed DHCP packets on particularly large deployments where the restart process could take some time. Now, the DHCP server is able to incorporate these devices without a restart. During initial deployment of version 6.1.0, there will be a necessary "mass add" of authenticated devices to the DHCPv4 server. Therefore, installation of version 6.1.0 may take longer than previous versions have in the past depending on the size of the ISP. We will adjust accordingly when scheduling updates.

A couple of general performance enhancements have been implemented in this version that should increase efficiency, especially in large ISPs. A performance problem was found and corrected in usage graph data gathering for DHCPv4 which affected large deployments with many configured networks. Some may see up to a 50% drop in resource usage by the graph data gathering process. Those with 2016-1 model DHCPatriot systems which contain SSDs for storage will now have trim operations performed at boot time as well as on the usual scheduled basis. This will enhance drive performance and longevity in these systems.

Finally, a new feature and various enhancements have been added to the API. The Deny Mac Address list can now be managed via the API. All of the API logging has been reconfigured to log access to a function and by what API user, and then the result of the access. Each API log message will contain '(API)' so that these log messages can be found easily.

Look for a beta of this version to launch during the month of March 2017! Let us know if you would like to beta test!

Download
DHCPatriot v5.1.0Primer.pdf