THE GIGABYTE GAZETTE

The Monthly Newsletter

of the

Sun City Summerlin

Computer Club

www.scscc.club

June, 2019

Table of Contents

Issue Contributors

Tom Burt	Kathy Kirby
David Kretchmar	Peggy Cushman
Jeff Wilkinson	Dan Douglas

President's Message

by Jeff Wilkinson

Internet of Things Data Tracking

This column first appeared in the June, 2018 issue.

As I continue to delve into the ramifications of targeted marketing and how it might affect us in our everyday lives, I'm diverted to the Internet of Things (IoT). A little research on IoT and how data from seemingly innocuous devices could be collected and used, proved enlightening, with a tremendous amount being written on this subject.

How will this data flow through the various collection systems? Will data be captured in real time or transmitted in anonymous batches? How will it be used, and who will have access to the purportedly anonymous data sources? Devices supplying data could include fitness wearables, various accessories in cars, IoT equipped appliances, such as refrigerators, washers, dryers, health trackers, Smart TV's, security cameras and devices, web connected eyeglasses, and the list goes on.

Table 1: IoT Units Installed Base by Category (Millions of Units)

Category	2016	2017	2018	2020
Consumer	3,963.0	5,244.3	7,036.3	12,863.0
Business: Cross-Industry	1,102.1	1,501.0	2,132.6	4,381.4
Business: Vertical-Specific	1,316.6	1,635.4	2,027.7	3,171.0
Grand Total	6,381.8	8,380.6	11,196.6	20,415.4

Source: Gartner (January 2017)

IoT devices will outnumber the world's population this year for the first time.

A recent study indicated that over half of those surveyed would be willing to receive some ads. This, of course, indicates that some form of data tracking is needed, not only of our computers and phones, but of the fitness monitors used to track our physical activity, the refrigerators monitoring our supply of milk, or the processor in our new car monitoring our driving!

Much of the data can be used for non-nefarious purposes, such as product improvement and future product development. But will some of this data be used to extrapolate future drug health care needs, based on current fitness monitor feedback data? Will this data find its way into insurance actuarial tables? And, of course this data will be used for more fine grain targeted marketing. The management of this data has, in fact, spawned new companies who will monetize this valuable data. It will be another learning experience, as hopefully the public is able to decide what is acceptable and what is not.

On the plus side, IoT can help create Smart Homes and improve machine efficiency, such as heating and cooling devices. Iot can be used in wearables for security and identification, health monitoring and reporting, smart retail and inventory control, optimization of farming, and supply chain activities, to name a few.

Many positive things come out of the use of IoT data, such as Rolls Royce using this data, along with artificial intelligence (AI), to create business benefits to customers and improve their products. They have created "Data Innovation Cells" which use collected data to test new ideas to improve performance, maintenance cycles, and safety, and develop product improvements.

It is certain that data from IoT connected devices will unlock efficiencies, spawn innovation, and lead to meaningful insights of all kinds!

So, the IoT is actually being used in numerous positive ways, and engineers are just beginning to see all the potential benefits. Of course, putting sensors and retrieving feedback from every process can result in an overabundance of data, which may or may not prove useful. While all of this can be viewed as an overwhelming invasion of privacy, it can also be looked at as an exciting step forward and a world full of new opportunities, with positive outcomes around every corner!

Until next month …

Jeff Wilkinson, President
(702) 527-4056   pres.scscc@gmail.com

Submissions Welcome

We are always looking for new information to share with our club members. If you have computer or technical information you would like to share with members of the club, send your articles to editor **Tom Burt** at tomburt89134@cox.net. Thank you to everyone for your contributions.

SCSCC Board of Directors Actions

The Computer Club Board of Directors took the following actions on Thursday May 9, 2019

George Lobue made a motion that the minutes of the March 13th, 2019   Board Meeting be approved as submitted. The motion was seconded by Chuck Wolff and unanimously approved by the Board.

Tom Burt made a motion that the meeting adjourn at 10:10 AM. George Lobue seconded the motion and it was unanimously approved by the Board.

General Membership Meeting

There will be no General Meetings in June, July or August. Our next meeting will be at 2 PM on Thursday, September 5th, 2019 in Desert Vista Room 5.

For Club information: go to www.scscc.club, contact Jeff Wilkinson, President at (702) 527-4056 or email him at pres.scscc@gmail.com.

Welcome New Members

The following new members joined the Computer Club between April 26th and May 29th.

John Zimmerman

June 2019 Calendars

To view this month's classroom and lab calendars, click the following hyperlink:

http://www.scscc.club/Calendars/scscc_calendar_2019-06Jun.pdf

Special Interest Groups

Special Interest Groups (SIGs) provide a forum for general discussion on a specific computer related subject. Admission to all SIGs is on a first-come, first-seated basis and is subject to the maximum allowed by fire code regulations. All of the following meetings are held in the Classroom. <W>, <M> or <H> indicate whether a SIG would be of interest to a Windows, Macintosh or Hand-held Device user.

Genealogy Q&A <W/M>
4th Saturday, 9 a.m. to noon in the Lab
Karen Ristic (702-749-6489)

Genealogy is one of America's most popular and rewarding hobbies. With billions of records now available online, researching your family tree has never been easier–if you know where to look and which key words you'll need to use to create an accurate family tree from start to finish.

Hardware / Software Repair Lab <W/M >
Every Tuesday, 1:00 p.m. to 4:00 p.m.
Chuck Wolff (702-233-6634) and
Chuck Hagen (702-418-2614)

The Repair Lab provides **CLUB MEMBERS ONLY** with no cost assistance for those having upgrades and / or hardware and software problems with their computers. Bring in only your PC tower, your Mac or your laptop and your problems. Our TECH team will give you our best effort. *Be sure to mark your cables so you can re-connect when you get home*.

Internet Investing <W/M/H>
3rd Thursday, 9:00 a.m. in even months
Next meeting: June 20th
Tom Burt (702-341-7095)

The Internet Investing SIG provides a forum for members interested in using Internet resources for researching and managing investments to meet, discuss, and learn more about the topic. The SIG's target audience is members with intermediate computer skills and investment experience, but all members are welcome.

~~**iPad/iPod/iPhone**~~ **<H>** *Dark for the summer*
4th Wednesday, 9 a.m.
Zane Clark (702-562-3684)
This SIG will be your forum for learning about and discussing the Apple iPhone, iPod and iPad tablet devices. It's for Apple hand-held device owners of all experience levels.

Windows 10 <W>
First and Third Saturdays at 9:30 a.m.
Bill Wilkinson (702-233-4977)
Each session is devoted to helping new Windows 10 owners become familiar and comfortable with Microsoft's newest operating system for desktop and laptop computers. Assistance will be given individually or in small groups. Bill's notes are available by clicking HERE.

Kaffee Klatches

Kaffee Klatches provide a forum for general discussion on all computer-related subjects. Admission to all Kaffee Klatches is on a first-come, first-seated basis and is subject to the maximum allowed by fire code regulations. The following meetings are held in the Classroom. **<W> or <M> or <H> indicate whether a SIG would be of interest to a Windows, Macintosh or Hand-held Device (iOS or Android) user.**

Windows 10 SIG / Q&A <W>
First and Third Saturdays, 9:30 a.m.
Bill Wilkinson (702-233-4977)

If you are a novice or near-beginner computer user, or if you just want some refresher information together with a refreshing cup of coffee, then jump-start or recharge your computing knowledge by attending these Win 10 SIG / Q&A sessions. At each session, attendees will explore several topics of interest to beginners and near-beginners. The topics are always announced a couple of days in advance via e-mail to SCSCC members who have subscribed to the club's SCSCCNews mailing list. Each topic is presented in a step-by-step manner and is supported by "how to" notes that can be easily and conveniently downloaded from the SCSCCBKK.org web page. Following each "up front" presentation of one or more topics (approximately 60 minutes in duration), an informal open-ended Question and Answer period takes place for those who wish to participate, listen, reflect, or inquire.

Kaffee Klatch <W/M/H>
Every Tuesday, 8:30 a.m.
Sandy Mintz (702-838-2525)

This Kaffee Klatch is an open, free-form discussion group for all users, from beginning to advanced. KK discussions are not restricted to any one subject, computer platform or computer-knowledge level but should be computer or technology related. We will try to answer your questions, help you keep your systems updated and provide some useful "tips and tricks." Since our SCSCC is built on "neighbor helping neighbor," if you have a tip or information, we encourage you to bring it in and share. The fellowship is great, the coffee is good, and the education received from the KK attendees is priceless. Stop by on Tuesday morning and have a cup of coffee with us.

June 2019 Hands-On Classes

Because there are a limited number of computer stations available for hands-on participation, pre-registration is necessary for most classes.

No hands-on (Lab) classes are scheduled in June.

June 2019 Free Seminars, Q&As and Workshops

For Computer Club seminars, there is no requirement for advanced registration unless explicitly stated. Seating is first-come, first-seated.

Las Vegas History in Words and Pictures

Monday, June 3rd at 1 PM
Presenter: Stu Gershon
Location: SCSCC Classroom

Stu will present an interesting history of Las Vegas and surroundings in a combination of photos and commentary.

"All Things Apple" Q&A

Wednesday June 5th, then *Dark for the summer*
Presenter: Zane Clark
Location: SCSCC Classroom

Bring your Apple iPhone, iPad, Watch or Macbook to get one on one help with your questions about how to use any Apple device and popular iOS or MacOS apps.

Android Q&A

Wednesday, June 5th at 1 PM
(Last session until September)
Presenter: Susan Heifetz
Location: SCSCC Classroom

Bring your Android phone and Susan will answer your questions about how to use the phone and popular Android apps.

File Management for MacOS Users on Your Computer

Saturday, June 22nd at 9:30 AM
(Rescheduled from May 25th)
Presenter: Gail Weiss
Location: SCSCC Classroom

Last month I thought it would be OK to have both WINDOWS and MAC Users in the same class. I am sorry to the MAC Users who didn't want to stay, since the first half of the class focused mostly on WINDOWS users. File Management is similar for both systems but navigating actions in the FINDER (MacOS) and File Explorer (WINDOWS) are quite different. My May class will be dedicated to MacOS users.

So, come and learn how to use the FINDER on your MAC to help you view and organize your files. You will learn how to create folders and how to copy and move your files between the folders. You will also learn how to search for files if you can't remember where you saved them. Please bring your own APPLE Laptops if you want to follow along. For more information about this class or if you have any questions or ideas for future classes, please email me at gmweiss5@gmail.com.

Photopea Image Editor - Introduction

Thursday, June 27th from 9:30 – 11:30 AM
Presenter: Tom Burt
Location: SCSCC Classroom

A relatively new offering of **free** programs for advanced editing of images is the **Photopea Image Editor**. Photopea is a web-based image editor with a rich and powerful set of features. It is very similar in look and functionality to Adobe Photoshop.

While we can't begin to cover the full scope of Photopea's capabilities, this two-hour seminar will demonstrate how to use Photopea in enhancing your photos to turn them from snapshots into photographic art. We'll first cover all the common image edits. Then we'll reach beyond the basics, demonstrating layers and other advanced techniques you'll want to use in your "digital darkroom".

You can never have too many image editing tools – especially when the price is right ($0.00). So come check out Photopea and see if it belongs in your image editing tool kit.

Presentation notes will be available about June 22 at: http://www.scscc.club/smnr.

Tom's Tech-Notes

Securing Your Home Router

Tom Burt, SCSCC Vice President

Introduction

We recently had some discussion in the club's Tuesday Kaffee Klatch session about security concerns for home WiFi routers. That discussion spurred me to write a column about key things you need to do to make sure your home router is as secure as possible.

All network traffic inside your home and all external Internet traffic flows through your home router. An insecure router can provide an entry point for hackers to break into your home network and also to monitor network data traffic, hoping to capture personal and financial information that can be used to steal your identity and assets.

In the following, we'll talk about a few important things you can do to make your home router as secure as possible. My examples and screen shots are from a late-model Netgear AC1750 R6400 router. If you have a different make (Linksys, DLink, Asus, TP-Link, …) your router's screens and settings are likely a bit different, but the key settings should still be available.

Logging in to Your Router

Modern routers all have a built-in Settings interface, implemented as a set of web pages. To get to the Settings interface, start your web browser on a device connected **via an ethernet wired cable**. In the browser's address box, enter the internal IP address of your router. To find this in Windows, click the Start flag, then click the Settings gear icon. Click Network & Internet > Status > View Your Network Properties. Your router's internal IP address is the **Default Gateway** address. For my router, it's 192.168.1.1.

Default gateway:	192.168.1.1

After entering 192.168.1.1 into the browser's address box, the login screen appears:

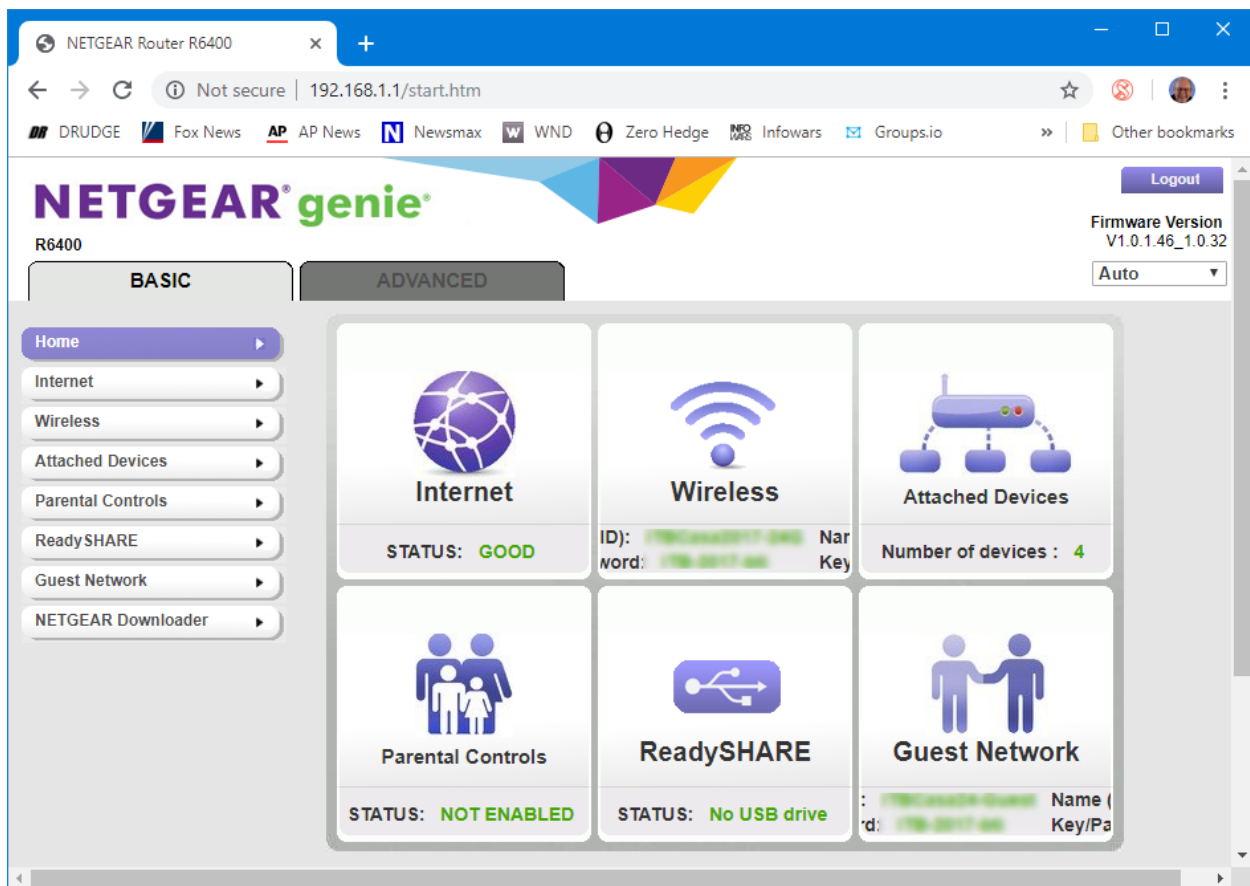Enter the Username (admin) and Password values and click the Sign in button. The router's main settings screen will appear in your browser.


Netgear Router Main Screen – Dashboard

The buttons along the left side, when clicked, lead to various screens showing specific settings you can review or change. Notice that there are a Basic and an Advanced tab.

Setting an Administrator Username and Password

The first thing to do is check and modify the default Administrator Username and Password. On my Netgear, this setting is found on the Advanced tab in the Administration section. Click the Set Password link to display a "set password" dialog (see below). Enter the old password and then enter the new password twice. The Netgear router does not offer an option to change the Username; it is always "admin". As a consequence, use a very strong password (long, mixed upper/lower case letters, digits, special characters). Make sure you write this down and store in a safe place or in your password manager software's vault.

You may want to enable the Password Recovery feature, which has two security questions and answers. The final screen appears below. Click the Apply button to save the changes.
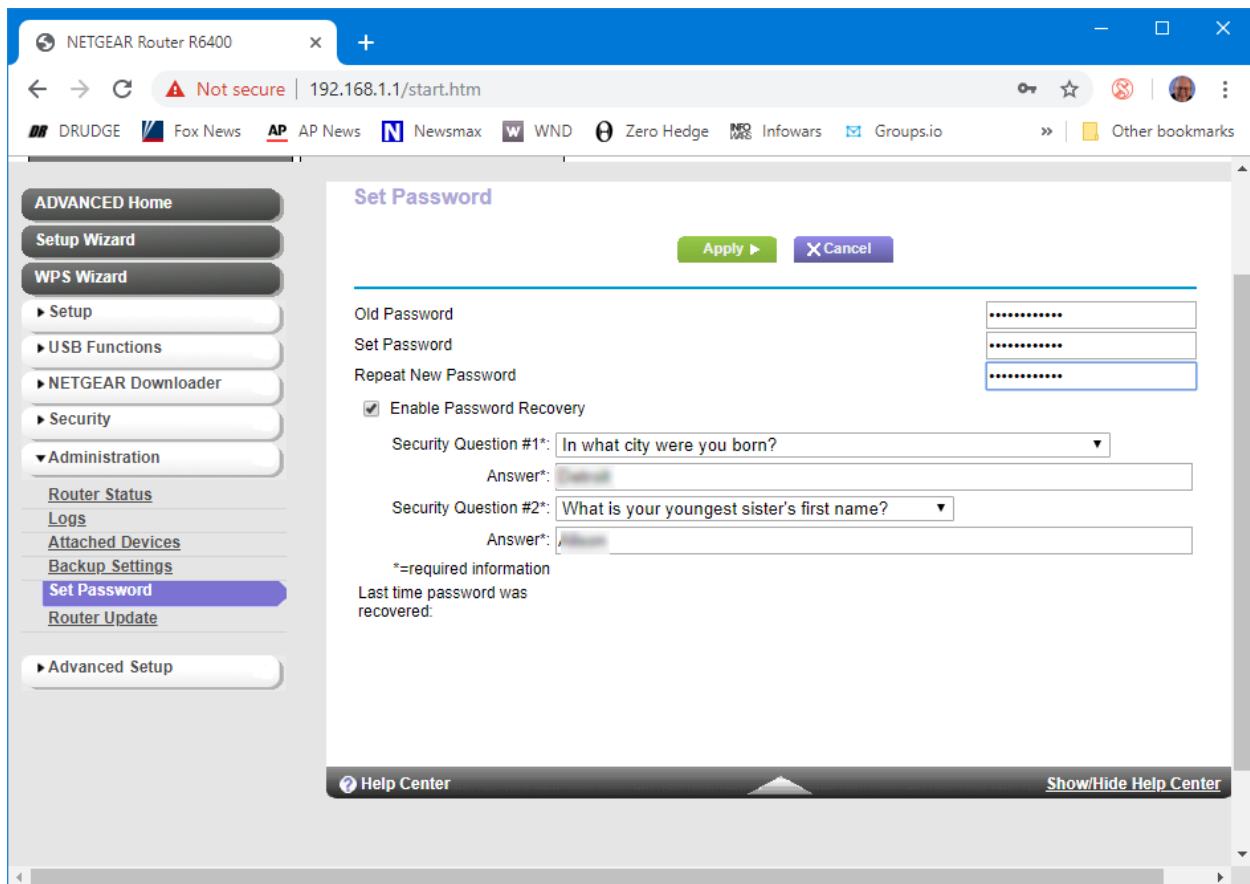
Netgear Router – Set Administrator Password Screen

Setting a Wireless Encryption Password

The wireless data traffic between your router and connected wireless devices is carried via radio waves. These have a range of several hundred feet and so can be detected by any nearby wireless device. Electronic eavesdropping is thus very easy. To secure your wireless data traffic, it is critical to set up a wireless encryption password. Once this is done, only devices that know the encryption password can connect to your router. All of the data traffic is encrypted using a very strong key derived from the password. This makes eavesdropping by outsiders effectively impossible.

The settings screen for wireless encryption is found on the Basic tab. Click the wireless button to display the Wireless Setup screen. It has a variety of settings (see below). Since my router has dual bands (2.4 GHz and 5 GHz), there are separate settings for each band.

The key things to set up are the SSID (a name for your network), to turn on WPA2-PSK (WPA2 with private shared key) encryption and to set the actual encryption password. For the **SSID**, choose a name that is meaningful to you, but doesn't directly disclose your identity. For example, I chose "ITBCasa2017-24G" for the 2.4GHz band. For the **passwords**, I chose a 12-character string of mixed upper / lower case letters and digits (mine are blurred in the screen shot) for both bands. A connecting wireless device only has to enter the encryption password once; the device will remember the password for future connections. When the settings have been entered, click the Apply button. Make sure to write down the encryption password.
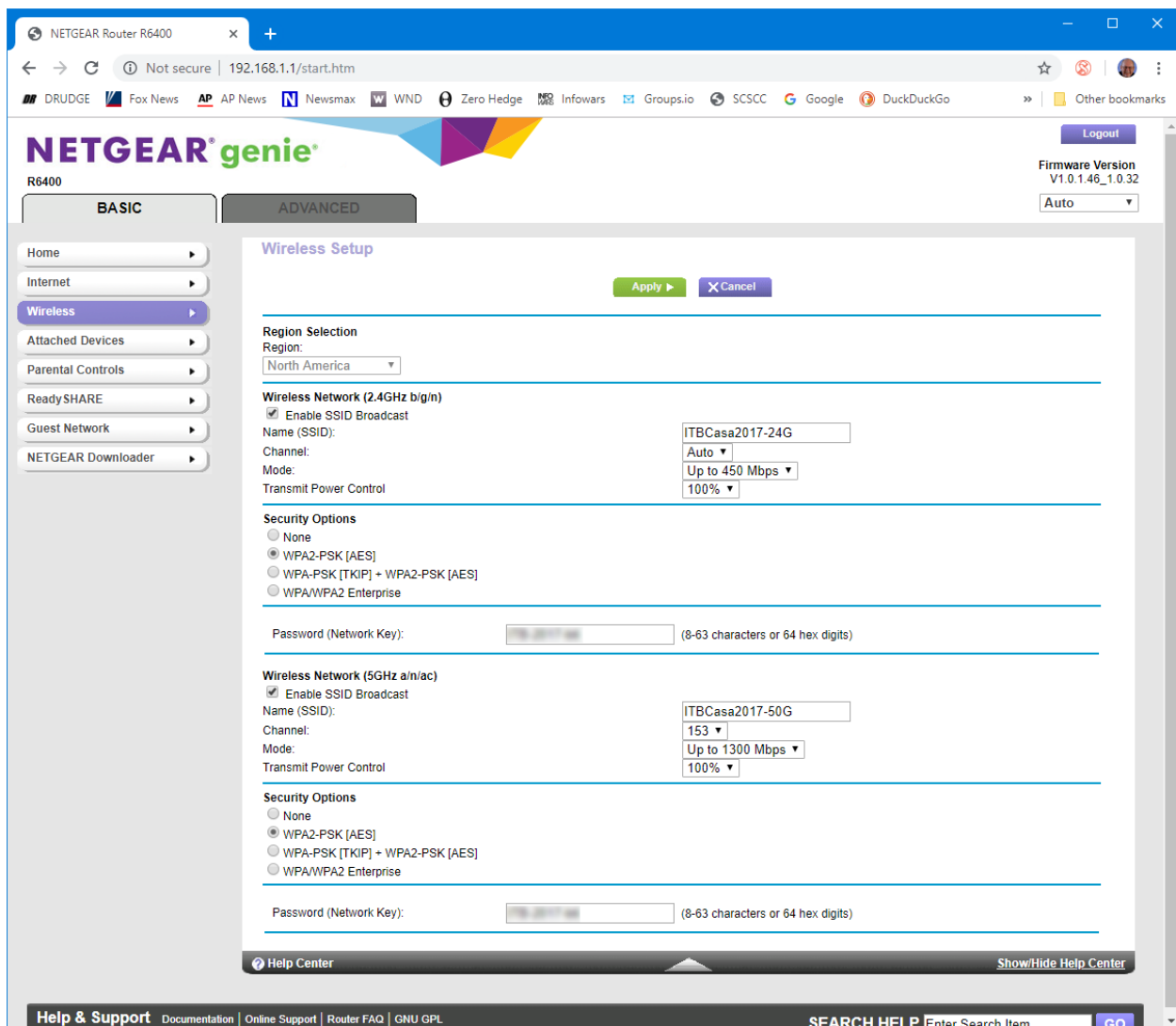
Netgear Router – Wireless Setup Screen

Updating Your Router's Firmware

Your router is actually a specialized computer, running built-in software (firmware) stored in flash memory. Occasionally, bugs and security flaws are found in the firmware that need to be patched to keep your router secure from outside hackers. Your router vendor's support website will offer the latest firmware as a file you can download to your PC or even directly to your router. Once you have the latest firmware file, the Settings interface can update the router's internal firmware.

On my Netgear router, the firmware update screen is found on the Advanced tab; click the Router Update button to display the Router Update screen. If an update is available, this screen will normally display a notice to that effect. You can click the **Check** button to have the router check the Netgear support website for a newer version of the firmware. I prefer to use my web browser to download the new firmware file to a folder on my PC and then, in Router Update, I click the **Browse** button to select that firmware file. I then click the **Upload** button to install the new firmware. **Be sure you're doing this via a *wired* ethernet connection to the router.**
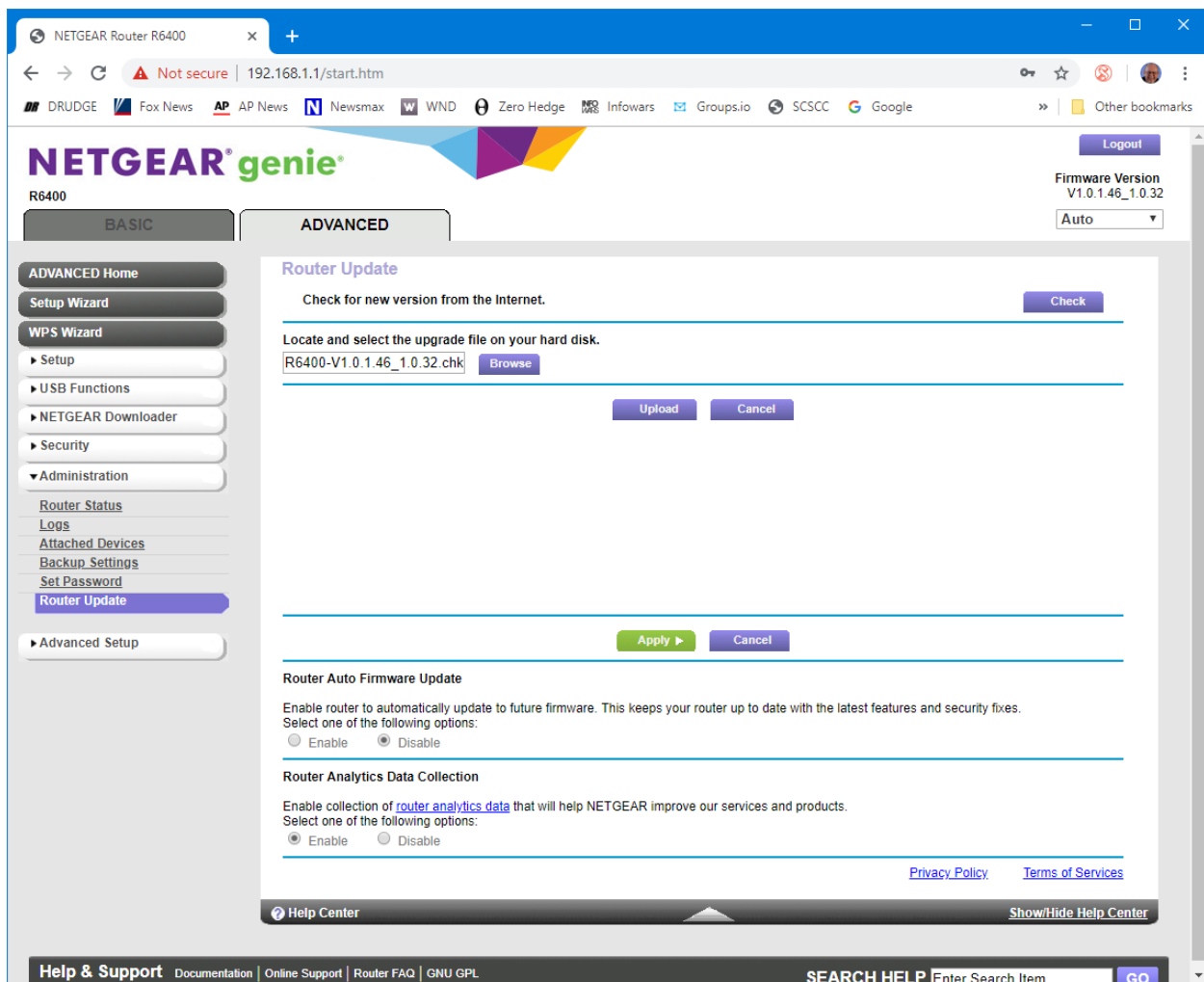
Netgear Router – Router Update Screen

The firmware update takes about 5 minutes. Update progress is displayed with a progress bar. At the end, the router restarts. When that is finished, you can log in and check the firmware version number to confirm the update succeeded.

Other Actions

As you browse around your router's Settings interface, you'll see many other things you can adjust. We've only covered a few of the key basics here.

I recommend that about once a year you take the time to check and update your router, including changing the administrator password and the encryption password. Also, it's a good idea to power your router off and back on occasionally (maybe once a month). This gets rid of any malware that might have broken in as well as flushing out any other corruption.

Until next month …

Kretchmar's Korner

By David Kretchmar, Computer Technician

My Trip into Virtual Reality

Recently the price of virtual reality (VR) equipment has descended at least part way out of the stratosphere. So I thought, "Why not?" which was a much easier question for me to answer to answer than "Why?" I told my wife I wanted it to help entertain our grandkids. She did not really buy my rationalization, but still gave her approval for my new toy.

What is "Virtual Reality"?

Virtual Reality can be defined by what it is trying to achieve: total immersion. Virtual Reality is an experience far beyond the much more familiar 3D, which has been around seemingly forever and has always been pretty much an entertainment gimmick. With VR, you are seemingly transported to another reality by virtue of electronically created visuals, sounds, and even some tactile feedback. Your static (without moving your head) field of vision in VR is 110 degrees,

similar to your vision in the real world. When you turn your head and body the magic really kicks in; you can view 360 degrees of your VR world, left, right, up, and down. And everything seems quite realistic – so real you can actually interact with that VR, depending on what the creator of that VR experience has programmed. Some VR titles put the viewer right in the middle of the action. In the best VR experiences, you can interact with various objects and individuals. Sometimes you can pick up

and use an object such as a ball or gun. Your VR experience is often dependent on how you choose to interact with the presented VR environment.

What equipment is required?

The Oculus Rift set I bought consists of a headset that fits over the top of your face, 2 sensors that pinpoint your exact position, and left and right hand controllers that provide virtual hands to use in your VR world. The Oculus headsets provide built-in 3D sound. At the heart of a VR system is a mid-grade PC with a fairly beefy graphics card.

There are VR headsets that are powered by an attached smartphone. These are much less expensive but provide a much lower quality experience.

There are currently 2 premiere makers of VR equipment, Oculus and HTC Vive. Samsung also has VR products, but it is not currently considered a leader in VR technology. It is similar to the environment some 40 years ago with the Sony Betamax vs. VHS. HTC Vive is a stand-alone company while Oculus was acquired several years ago by Facebook.

Vive equipment is more expensive than Oculus', and has a slightly better picture quality, but Oculus now seems to have better virtual "hands "to interact with its virtual world. Eventually one or 2 technologies, by Oculus, HTC Vive, Samsung, or some other company such as Amazon, Google will likely prevail.

How realistic is VR?

A user could never mistake a current VR world for the "real" world. The resolution of the Oculus VR device is 1080 pixels by 1200 pixels of resolution for each eye, and a 90 Hz refresh rate, less than a good 4K UHD television. Also, there is a noticeable "screen door" effect; it seems like you are viewing the VR world through a screen. But just like looking through a real screen you quickly learn to ignore the screen and see only what is beyond.

What is the future of VR?

VR is in its infancy, which is both exciting and concerning. In the future VR will appear much more life-like and the interaction will be more realistic. It is easy to imagine a surgeon operating on a person anywhere in the world using VR technology. It is also easy to imagine the characters in a VR world, powered by Artificial Intelligence, providing a lonely person with "human contact" or a reasonable facsimile thereof.

VR use in marketing and education has great potential. As with any new medium, pornography is apparently becoming an early adopter.

Last month 2 of our grandkids, age 6 and 9, visited. It is no exaggeration to say they were fascinated by their VR experience, and I have retained the title of "World's coolest grandpa". I have the coffee cup to prove it.

APCUG Guest Article

Dan's Desk

Smart Homes

By Dan Douglas, President, Space Coast PCUG, FL
March 2019 issue, The Space Coast PC Journal
www.scpcug.org
datadan (at) msn.com

I'm pretty sure that almost all of you have heard about having a 'Smart Home' and may be wondering what that's all about. This month I'll take a look at what that means and some of the issues to watch out for.

The most common starting point for setting up a smart home is to select a hub or main control point/device. There are thousands of smart lights, digital locks, security cameras, thermostats, and more, but if you want to control them all from a single verbal or screen interface, then you're going to need a smart home hub.

The Amazon Alexa, or an Echo as it was originally called back in November 2014 when it launched, was one of the first on that market that really took off. That was followed a couple of years ago by the Google Home hub (11/2016) and the Apple HomePod (1/2018). There are several others on the market such as the well-rated Samsung SmartThings and the Hubitat Elevation hub, but I'll concentrate on the Amazon products since those are the ones that I'm most familiar with.

Alexa comes in basically three styles from Amazon: the original Echo model which is about a 10 inch high 4 inch diameter cylindrical speaker with a light and microphone on the top; next came the Dot which was like a hockey puck in size with a much smaller speaker followed by the Show which was the first to offer a LCD screen to display information in addition to the ability to talk, which is a common feature across all models. You can set up the device by connecting it to your Wi-Fi network through a smartphone app, and then selecting various capabilities or 'skills' through the app which programs the Alexa device. The Alexa device can be set to respond to a key word, which must be Echo, Alexa or Computer, such as 'Alexa, what is the weather forecast in Orlando?'

Through the skills settings for the device, you can program it to be aware of and to control all of the other smart items in your house. In my house for example, I can tell Alexa to adjust the thermostat setting, show me who is at the front door, turn the outside lights on or off, turn the sprinklers on/off and control the volume on the TV. Many users have newer versions of TVs, cable or satellite boxes, channel streaming boxes like a Roku or Amazon Fire TV, pool pumps/heaters, robot vacuums, and garage door openers to mention just a few, that can all be controlled through the hub. At Christmas time, I wired the outside holiday lights to a Wi-Fi enabled extension cord that I used to control when the lights came on or off. The possibilities are really endless, with the capability of controlling virtually every household appliance, gadget and other things that you may want to turn on or off today, not in the far future.

Now the reason that I wanted to write about this is because of what happened to my smart house when we experienced a lightning strike outside the house. A surge went through the internet cable running to my house and fried part of the circuitry in my cable modem. I have the modem connected to my own Wi-Fi router through a wired LAN cable, which is very common practice in a lot of homes today. My router could no longer connect to the internet, so all the devices programmed to link through my Wi-Fi network could no longer communicate.

The Wi-Fi in the cable modem itself still worked so I was able to switch my PCs over to it without any issues. However, Alexa, and all the devices that it was linked to, could no longer be controlled. Of course, most devices have a manual mode of operation, so I could still adjust the temperature, and watch TV, etc. I could have spent time to reprogram Alexa and every device to use the weaker cable modem Wi-Fi, but it was a lot simpler to just wait for the next day when Spectrum came out and replaced the faulty pieces, so my main Wi-Fi router could resume normal operations.

It was amazing to see how easily we had adjusted to the smart home automation capabilities and how we had to think about what to do for certain functions that were now automated.

Our Web Master, Curt Postic has a great deal of experience programming Alexa to do more than I do, such as making phone calls through his Alexa, so take a look at his monthly web master reports (**www.scpcug.org**) for the latest advancements in this ever-evolving Smart Home saga!

June Lab Monitor Schedule

Open Lab sessions are held twice per week: 9 am to noon on Wednesdays and Saturdays.

June	Monitor Schedule
Jeff Southwell Ann Warhaftig	Saturday June 1, 2019
Bonnie Lum Mitch Swetsky	Wednesday June 5, 2019
Jim Enlow Fred Cohen	Saturday June 8, 2019
Jim Edwards Jan Edwards	Wednesday June 12, 2019
Mary Hedin John Zuzich	Saturday June 15, 2019
Blanche York Carol Przybycien	Wednesday June 19, 2019
Karen Ristic Ray Ristic	Saturday June 22, 2019
Mitch Swetsky Millie Taylor	Wednesday June 26, 2019
Gail Weiss Kathy Kirby	Saturday June 29, 2019