

HAPPY HOLIDAYS !!

Saturday, December 14th Fairfax Meeting, 1 PM

OTG=On The Go: Adding USB Peripherals to Portable Devices

Presented by John Krout

Those USB sockets on your computer are called USB-A. Would it be useful to have a USB-A socket on your smart phone or tablet? You can do that with an On The Go (OTG) cable. One end plugs into the portable device, and the other provides a socket for connecting and using USB peripheral devices such as a keyboard.

Your device will need to use an operating system version that includes a USB host capability. It turns out that iOS 12.x and Android 8.x include that capability.

This presentation will demonstrate the many USB peripheral devices that the presenter has tested with OTG cables for his Android phone, Android tablet, and iPhone, and what he has learned during the tests. Hint: not all OTG cables are created equal.

PC Clinic – In the Annex

Clinic Rules: <https://www.patacs.org/clinicpat.html>

Let Us Know – in advance – What You Seek Help With

Call 703-370-7649 or Email: pcclinic@patacs.org

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Windows 10 Helps with Vision Problems

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September 2019 issue, STUG Monitor www.thestug.org education (at) thestug.org



Ease of Access Center

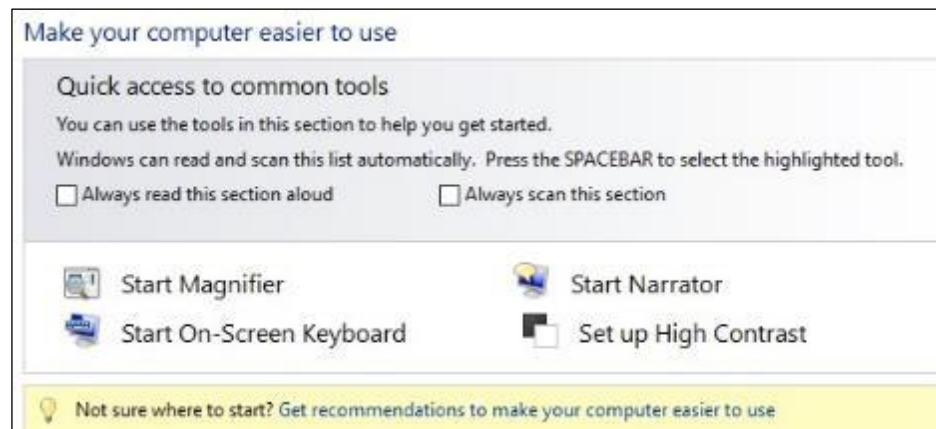
As we age, many of us find that our vision begins to deteriorate, making it difficult to read the computer screen. Windows has a long history of aiding users with this problem, but Windows 10 has increased the number of vision assistance features and made

them easier to use. This article explores the vision tools located in the Ease of Access Center on the Control Panel. Type “Control” in the Windows Search box and click Control Panel > Ease of Access Center. If you intend to visit the Ease of Access Center often, you can save time by pinning it to the Start menu or Quick Access toolbar (located above the ribbon). To do this, open the Control Panel, then right click Ease of Access Center and click your choice of locations.

The vision section of Ease of Access has several tools. Some have so many options they can be confusing.

To help you begin, Windows 10 offers a survey which will help you know where to start, given

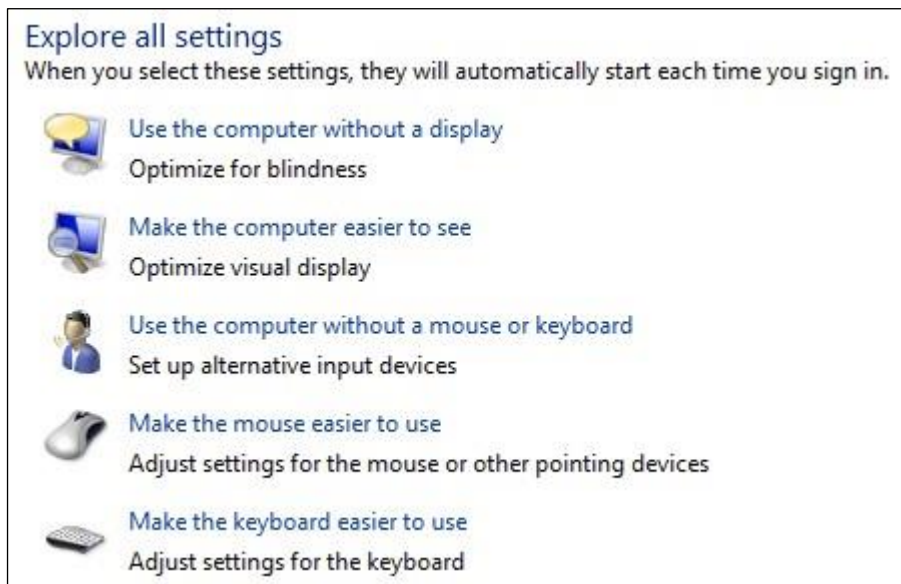
your specific vision problems. (See the yellow box above.) Your answers will generate recommendations for which tools will give you the most help. The four most popular tools are listed above the yellow box. Below the box is a partial list of settings that can be personalized. (See below) After a setting is selected and turned on, it starts up the next time you open the Ease of Access Center and stays on until you turn it off.



Here are brief descriptions for some of the Vision tools featured in Windows 10:

Magnifier can enlarge the contents of the whole screen, locate or dock the magnified text at the top of the screen, or create a magnifying lens which you can move with a mouse or touch to magnify specific sections of the screen. To turn on Magnifier, hold down the Windows logo key and press the + key. To turn it off, hold down the Windows logo key and press the Esc key. Magnifier has many optional settings. It is usually safer to stay with the default settings until you find you need to change one.

High Contrast makes text or graphics easier to see by emphasizing their difference. For example, a black background with white or light-colored text might be easier for some people to read. Others might prefer a white background with black text. To turn high contrast on or off, hold down the Shift and Alt keys on the left side of the keyboard and press the Print Screen key (PrtScr) on the top row of the keyboard.



Narrator is a screen reader. After you choose a male or female voice, Narrator reads aloud everything on the screen and can describe the content of videos (Audio Description).

Narrator is easy to turn on and off from Ease of Access Center or by typing Narrator in the Search box.

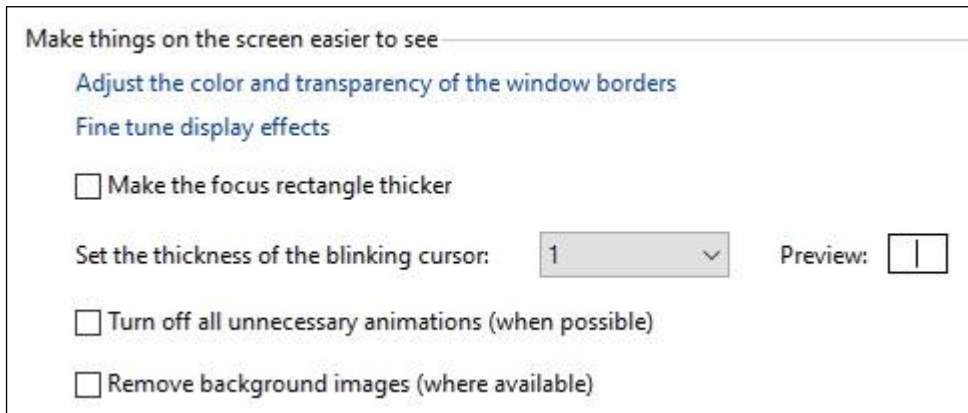
Adjustments can be made to the reading speed. You will need speakers to use this

tool. Some recent changes made to Narrator are explained in the box below:

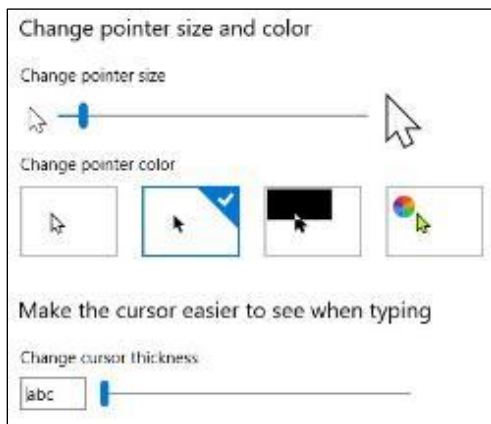


On-Screen Keyboard is a keyboard which appears on the screen with a black background and white characters. This keyboard option may be easier for some users to see. It can be used with a mouse or touch if you use a touch screen computer.

Display includes tools to make your screen easier to read. Use the slider to change the text size or brightness of the display. A few other settings are shown below:



Cursor and Pointer, lets you choose the size and color of the mouse pointer and cursor. This is a good option for those who have trouble finding the pointer on the screen. More settings for a mouse pointer can be found in the Control Panel in 'Mouse'



Color Filters are options for those with color blindness. Choose between grayscale or various color groupings until you find one that makes it easier to see photos or colored graphics.

Speech Recognition: If you have your PC connected to the Internet and have turned on 'speech recognition' in the Control Panel, your computer will type your words as you speak them. You must also turn on the computer's microphone. To do this, type 'microphone' in the Search box. As of now, speech recognition includes six languages.

Cortana: Microsoft's digital assistant, Cortana, is an easy-to-use shortcut to many types of tasks, such as opening an app, sending an email, and answering questions. Just turn on Cortana by typing her name in the Search box and talk to her.

Not all the tools described here are found in Ease of Access. Type a tool's name in the Windows Search box to find it. Most of the accessibility tools have a "Get Help" link to click if you need assistance. If you need even more help, talk to Cortana.

From Dan's Desk: Smart TVs

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If you haven't shopped for a new TV in the last few years, you are in for an education. There are now as many acronyms that you come across when selecting a TV as there is in buying a PC. The last TV I bought was a 'SMART' High Definition TV (HDTV) with 3D. At that time, you had a choice of a HDTV set with or without the 3D option and the choice of many sets that weren't 'SMART' or many that were 'SMART'. The 'SMART' that I'm referring to is the ability to stream content from sources

such as Netflix, Amazon Video, Hulu, Vudu, etc. directly from the TV without the use of an external streaming device such as a Blu-Ray player, Amazon Fire, Apple TV, or Roku to name just a few of the most commonly found. 1080P was the best resolution available and sets bigger than 55" usually had a big price jump.

Now the easy part: when we jump ahead 5 years, we now find a mixture of both HDTV/2K 1920x1080 TVs and Ultra High Definition (UHD)/4K 3840x2160 TVs. There was a large price difference between the two types until this summer when the number of UHD sets has taken over from the number of HDTVs. Almost every set made is a 'SMART' one featuring an extensive collection of a mixture of both traditional (Netflix, Hulu, etc.) sources and non-traditional 'channels' (specialty channels like those available through Roku). Many TVs can be priced a little cheaper by not including an antenna tuner, recognizing the fact that the typical user uses an external box(es) for watching the programs of choice. Those are referred to as 'Displays' rather than a 'TV' which implies a tuner with network channel selection capability. Watch out if you want to install an antenna later and find there is no place to plug it into.

When we dive down deeper to the specifications, we find the harder parts to understand: High Dynamic Range or HDR is really where UHD sets shine on those that offer this feature – delivering a picture that is much closer to real life than was ever possible with a HDTV. HDR greatly increases the contrast range between white and black so that the image is more natural in its brightness and highlights. Coupled with HDR is a larger palette of colors that can be displayed – a HDTV can display about 17 million colors, whereas an UHD set, with an enhanced wide color gamut (WCG) can display over a billion! Most UHD sets will also up-convert 2K material to near 4K resolution.

As far as 4K material goes, there are many 4K sources now available. Netflix (for a small premium) offers a selection of many 4K shows/movies, as well as all Netflix original shows are shot in 4K now. Amazon Video also has a large selection of movies to rent/buy in 4K as does Fandango. My personal favorite is Walmart owned Vudu. Vudu offers a digital copy for life of almost every DVD or Blu-ray that you purchase. All new movies are also available to rent or purchase in 4K format, with older titles being added constantly.

Both satellite providers Direct TV and Dish offer a variety of 4K channels and rentals. Apple has just announced the new Apple TV box with 4K/HDR support with a large selection of material available on iTunes. YouTube also features many 4K/HDR videos and movie trailers. My personal favorite 4K source though, is a UHD Blu-ray player. Nothing outside of a movie theater can compare to the sight and sound of playing a 4K disc or streaming 4K content from Netflix or Vudu through a receiver with a Dolby Atmos 5.1.4 speaker setup in your own house

Presidential Bits

Paul Howard, PATACS President

Our thanks to retiring director Mel Goldfarb, who served on our Board since the 2012 merger with WACUG. Mel had chaired the review of WAC's financial records prior to the merger, introduced a number of speakers to the program effort for Saturday meetings, and helped post-meeting room re-setting activities. We welcome Henry Winokur to a Director at Large chair. Henry got off to a flying start, arranging the Experts Panel for the October meeting. Lisa and Don Ferrett are moving to

Michigan – their help with pre- and post-meeting activities, and on the newsletter mail prep team will be sorely missed. We hope to ‘see’ them via Zoom at future meetings.

Watch your email for a link to a short survey. The board would like your input on several areas of the Society’s activities and will appreciate the participation of all our members – please respond!

Book Review: Google Apps Made Easy – Learn to Work in the Cloud

Terry Flanagan, Club Librarian, GVR Computer Club, AZ

October 2019 issue, Greenbytes www.ccgvaz.org Newsletter (at) ccgvaz.org



GOOGLE APPS MADE EASY – Learn To Work In The Cloud. Google Apps is Google’s response to Microsoft Office and LibreOffice. The table below lists the various functions and the names used.

| FUNCTION | GOOGLE APPS | M/S OFFICE | LibreOffice |
|------------------|-------------|------------|-------------|
| Word Processing | Docs | Word | Writer |
| Spreadsheet | Sheets | Excel | Calc |
| Presentation | Slides | PowerPoint | Impress |
| Database | N.A. | Access | Base |
| Forms | Forms | N.A. | N.A. |
| Note Taking | Keep | OneNote | N.A. |
| Photo Organizing | Photos | N.A. | N.A. |
| Vector Graphics | N.A. | N.A. | Draw |
| Email | Gmail | Outlook | Thunderbird |
| COST | Free | \$100/yr. | Free |

What makes Google Apps different? First and foremost, Google Apps are web based. You do not download and install a program on your computer. You use your web browser, preferably Google Chrome, to go to www.google.com and log into your account and there they are. You do not have to be concerned with updates, maintenance, and backup issues. They are also platform or operating system independent. It does not matter if you are using a M/S Windows, Apple MAC or Linux computer, an Android smart phone, iPhone or iPad. The applications and your files are there in the cloud for you to access from wherever you are.

There are several advantage and disadvantages to working in the cloud. Being on the cloud makes it easier to share your files with others, which makes collaboration easier. There is no need to send email attachments back and forth or copy files onto flash drives. Also, all of your data will be consistent between your devices. If you make changes in Google Docs on your PC and later open the file on your iPad, the changes are there. Even if you save the file locally to your computer it will be synchronized to the cloud version. The disadvantages are that you must have an internet connection since most of the things you will do with these apps are cloud-based and done online. The applications do not have as many features as the other office suites and some may have security concerns about their data being on the cloud.

From the chart above, you will note that each office suite has applications that the other does not. Google Apps does not have a database module, but this is not a frequently used application by home users. Many common database functions can be handled by a spreadsheet. M/S Office and LibreOffice do not have a photo editing module, but there are a number of good stand-alone programs to perform those tasks.

Google Forms stands out as a unique application. Forms does what the name implies. You can easily create forms to gather information or take surveys. The data is automatically transferred to a spreadsheet and reports created to summarize the results and display them in easy to understand charts.

One final point to mention – notice the bottom line in the chart above. Google Apps are free along with 15 gigabytes of cloud file storage. More space is available for a fee.

Network Attached Storage – It's like a Personal Cloud

By Phil Sorrentino, Contributing Writer, The Computer Club, Florida
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It seems like everybody is into, or onto, the cloud these days. Most of the time, for the average user, it means taking advantage of one of the Cloud Storage services like OneDrive, Dropbox, Google Drive, or Box. Many users even backup their data to one of these cloud services. Cloud services provide a great way to store a fairly large amount of data, like all your pictures, music, and videos. OneDrive will give you 5GB for your own use, and Google will give you 15GB, and allow you to store an unlimited number of pictures and videos, if they are within a limited size and resolution. With these services, your pictures and videos are stored in some mass storage location somewhere on the internet. You must have a connection to the internet to access any of the data stored in the cloud, but a connection to the internet is almost a given for most of us nowadays. But there is another alternative, a personal cloud that you setup in your home. This cloud takes the form of a Network Attached Storage (NAS) device connected to your router. The data on the NAS device is shared by all the devices (wired and Wi-Fi) on your local area network (those indicated under “Network” in File Explorer). And the NAS device drive acts as a cloud by allowing you to access it from any remote location over the internet, even if your home computers are turned off. The NAS device installation is quite easy all it basically requires is an Ethernet cable connection to the router, and the router password.

NAS devices are available from many of the same storage companies that make the hard drives we have in our laptops and desktops, like Western Digital and Seagate. Western Digital has a line of “My Cloud” NAS devices and Seagate calls their line the “Personal Cloud”. Qnap, Synology, and Buffalo also have NAS product lines. The product literature boasts that “Today’s NAS devices allow you to extend that file-sharing access to people outside the local area network, which essentially gives you the personal cloud storage.” If you have only one or two computers and you don’t need a central storage facility, you probably don’t need an NAS device. Most people probably don’t have thousands of photos and gigabytes of digital music and large video collections, but some people do; so, if you are one of these people, you just might think of adding a NAS device to your network.

Aside from data streaming, it seems to me that the NAS device can be used in two different ways. (Data streaming on a network might be a future article.) First, the files stored on the NAS device could be copies of files from each of the computers on the network, or second, the files on the NAS device could be a database to be used by all the computers on the network. If the files on the NAS device are copies, then the NAS device is providing a backup capability. If the files on the NAS device are the primary storage files for all the network computers, then the NAS device is providing a database capability. (By the way, a much cheaper alternative to installing a NAS device is to set up file sharing on one of the networked computers and configure it to allow other computers to use its files and folders. Though this is a reasonable way to share files, the shared computer must always be powered on or the other computers will not have access to the shared files, so for some it may not be a good choice.)

Currently, reasonably priced NAS devices for home use are in the 2 to 8 TB range, and they are built with 1 or 2 bays (a bay holds 1 hard drive). A two-bay device can then be setup in a couple of different arrangements depending on how much storage is needed and how dependable the access to the data needs to be. For example, a two-bay device with two 4 TB hard drives could be arranged as one large 8 TB of storage, or a mirrored 4TB of storage. If arranged in a mirrored 4TB arrangement, the hard drives would be configured in a RAID configuration where the data is stored (mirrored) on both drives so that if one drive fails the other drive will still have the latest data. RAID is the term used to describe the coordinated use of multiple hard drives. It stands for Redundant Array of Independent (or Inexpensive) Disks and is a data storage technology that combines multiple hard drives into a single logical unit for the purposes of data redundancy, performance improvement, or both. The data is distributed across the hard drives in one of several ways, referred to as RAID levels. Each level defines a different desired level of redundancy and performance. The arrangement that gives 8TB of storage from the two 4GB hard drives is an example of RAID 0. The mirrored 4TB arrangement of two 4TB hard drives is an example of RAID 1. RAID 0 and RAID 1 are the simplest, but there are at least 5 RAID levels defined that provide a different balance among the goals of reliability and performance. RAID arrangements beyond 0 and 1 are probably overkill for a typical home use.

So, when it comes to cloud data storage there are at least two choices; cloud storage services or an NAS device right on your own local area network. With the expense of a NAS device and the extra hardware to maintain, I wonder if it is practical for most home networks. Especially since the Cloud Storage companies are giving a reasonable amount of memory for free, and additional memory at a reasonable price. But, then for those who have large amounts of data, or may be a little on the paranoid side, or for someone who just doesn’t trust their data to the cloud storage providers, this may be a better choice. With a NAS device, your data is always secure and physically within your reach, and not housed in some far away data center, where it may be the object of some far away hackers. It’s your choice.

PATACS Annual Financial Report, for Fiscal Year 2019

By Roger Fujii, Treasurer - FY2019

PATACS's fiscal year concluded on September 30th. The Society is in excellent financial condition. Results from Operations reflects \$326.58 from operations – greater revenues than expenses.

Donations are vital to the fiscal soundness of the Society. Member generosity accounted for 34.6 percent of our income. These donations received were \$487 more than in FY 2018. Amazon commissions via our website links were \$394.09 which were \$111.88 more than last year.

Pizza SIG donors include: Dakin, Fujii, Goldberg, Howard, Labell, Mikosinski, Throneburg, Walsh, and Wenri.

Member donations were received this year from: Howard, Pafford, Goldfarb, Wertime, Mabudian, Lowe, Vestrich, Walter, Troutman, Throneburg, Lusby, Schmidt, Stafford, Jones, Meyer, Smith, Desoto and Mikosinski.

PATACS is financially sound because of prudent planning and fiscal restraint. Membership stands at 94. Interest yields on insured deposits continue to be disappointing.

PATACS purchased a laptop and AV equipment to facilitate zoom online meetings. This is shown in the Meeting->Equipment and Meeting->Computer categories.

Our reconciled account balances within our Quicken accounting system at the close of the fiscal year (September 30th) were: Operating Checking Account \$5,744.89; Cash Reserve Checking - \$9,733.86; CD-F account: \$1,136.59; CD-G account \$2,060.88 (CD-F & CD-G as of last paper statement issued by Freedom Bank).

This Annual Treasurer's Financial Report for Fiscal Year 2019 was approved by the Board of Directors of PATACS on 10/21/2019. The balances and the

Cash Flow Report which follows are certified as correct

Roger Fujii, Treasurer Paul Howard, President

The "organizational documents" area of our web site contains additional information about the user group's financial operations, including prior years' Financial Reports for comparison purposes

| INFLOWS | |
|----------------------|-----------------|
| Amazon Commissions | 394.09 |
| Donations | |
| Direct | 800.00 |
| PizzaSIG | 987.00 |
| TOTAL Donations | 1,787.00 |
| Dues | 2,700.00 |
| REVENUES | |
| REIMB | 249.50 |
| TOTAL REVENUES | 249.50 |
| IntInc | 44.21 |
| TOTAL INFLOWS | 5,174.80 |

| OUTFLOWS | |
|---------------------------|-----------------|
| Admin | 0.00 |
| Accounting Expenses | 69.92 |
| State Filing Fees | 25.00 |
| TOTAL Admin | 94.92 |
| Contribution | |
| OLLI | 250.00 |
| TOTAL Contribution | 250.00 |
| Insurance | 475.00 |
| Meeting | |
| Computer | 581.94 |
| Door Prize | 296.84 |
| Equipment | 439.00 |
| Location Expense | 20.12 |
| Speaker | 48.00 |
| TOTAL Meeting | 1,385.90 |
| Membership Services | |
| Advertising | 135.00 |
| Answering Service | 30.00 |
| Brochure Printing | 41.34 |
| Website | |
| DNS Reg, SSL Cert | 100.85 |
| TOTAL Website | 100.85 |
| TOTAL Membership Services | 307.19 |
| NewsLetter | |
| Assembly | 84.78 |
| Postage | 614.00 |
| Printing | 1,636.43 |
| TOTAL NewsLetter | 2,335.21 |
| TOTAL OUTFLOWS | 4,848.22 |
| OVERALL TOTAL | 326.58 |

My Experience with a Subscriber VPN

Advantages, costs, pitfalls, workarounds

Part 1 of a 2-part article series

By John Krout, PATACS member

This article is based on a lot of research, several years of use of a corporate VPN at work, and a few months of using a subscriber VPN at home. VPN is an acronym for Virtual Private Network. The idea is that your use of a VPN provides a secure method of data communication, through strong encryption. The encryption hides the info in your communication, such as content of emails and URLs of web sites, from your Internet Service Provider (ISP) and any other **Man in the Middle**.

WHY VPNS EXIST

That phrase Man in the Middle is important. Your communication with your email server or any Web site may pass through half a dozen or more servers in between. For any one of those in-between servers, any bored or underpaid system administrator, and any hacker breaking in, might install message trapping software to capture info passing through, such as your IDs and passwords for your stockbroker or bank. Those snooping activities are called Man in the Middle attacks. Encryption makes it almost impossible for them to make use of that info. Originally, when local area networks (LANs) first became available, the only networks were inside a single building where all the computers were connected on the local network, with no connection to anything outside the building. Later, secure direct circuits, and modems, allowed communication between computers on the inside and the outside.

A very entertaining book, **The Cuckoo's Egg**, written by Clifford Stoll, describes the Bad Old Days before VPNs, when networks were insecure. It is a fascinating read. The author, an astronomer, was given the task of tracking down a 75-cent discrepancy in billing for use of a university local area network. His investigation led him to identify peoples who broke into the network. He found the same people also broke into military computers. He tracked the people to Europe, where they were tried and convicted based on his testimony and a huge pile of printed computer logs as physical documentary evidence. Stoll was a good guy in the middle. Because of experiences like that, corporations and the federal government have used their own VPNs for many years. VPNs have enabled greater automated data movement, ensuring privacy of the data due to the use of strong encryption.

And, now, VPNs are available to the rest of us. While using a VPN, the encryption is based on two *digital certificates*. The VPN server provides one to your computer, tablet, and smart phone. Additionally, the VPN server itself has another one. The encryption using those two certificates is based on some very creative research done in the early 1980s by three MIT professors, Rivest, Shamir and Adelman, who founded RSA and Verisign, two companies now at the heart of modern digital security efforts.

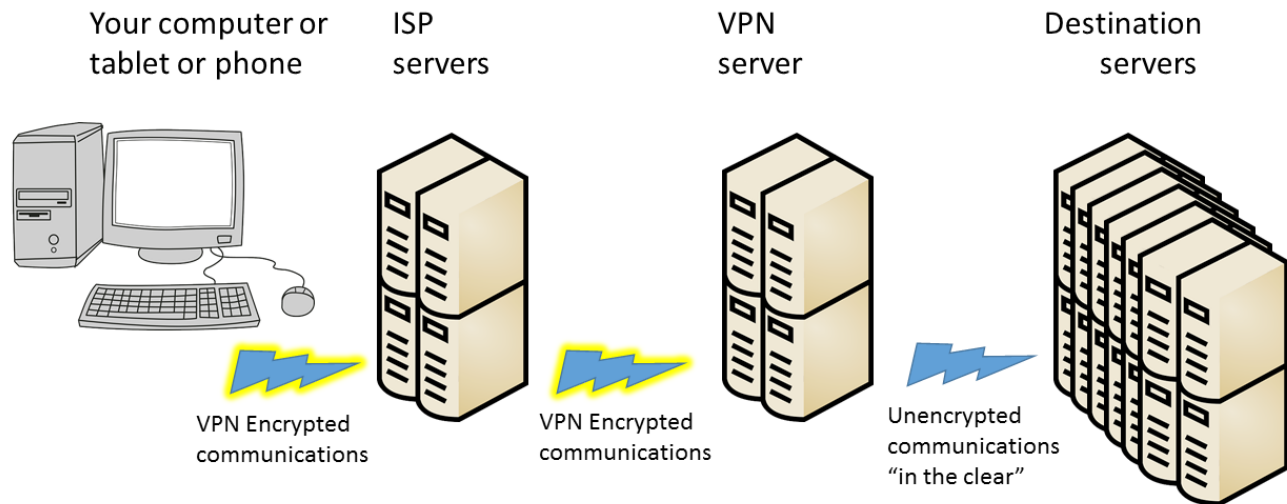
A second result of the two-certificate approach is that your account is known to be valid by the VPN server, and the VPN server is known to you to be valid as well. Without using a VPN, web sites and other internet services get access to the internet protocol address (IP address) of your home router, computer, phone or tablet. This is important because those IP addresses let web sites figure out where you are located. When you use a VPN, the web sites see only the IP address of the VPN server. In this way, a VPN server acts as your proxy, and are sometimes called **Proxy servers**.

Take a look at **Illustration 1**. This shows how a VPN server fits in the overall path of servers between your computer, phone or tablet and the world of the internet. Inevitably, your VPN-encrypted communications pass through your ISP servers, and then possibly through other intermediary servers until it reaches the VPN server.

Using a VPN server severely limits any snooping not only by your ISP but also by any servers between the ISP servers and your VPN server. So, the Man in the Middle is stymied in that part of the path.

Beyond the VPN server, the communication is unencrypted by the VPN, or *in the clear*, and at that point reaches the destination, which might be for instance a video streaming server, or a credit card company's web server. Of course, that leg of the path also involves intermediate servers.

How you connect to the world through a VPN



Because that leg of the overall communications path is not depicted as encrypted, you might think that a Man in the Middle attack would succeed there. However, these days most of those destination servers use HTTP-Secure protocol (https), which also employs encryption done in a different way, by your Web browser and by the destination server. That's right, a second encryption. As a result, the communication remains secure all the way through the entire path.

But I want to digress for a moment and suggest that your ISP might also behave as a Man in the Middle. When you use a VPN, the fact that the servers of your ISP see only encrypted data is very significant. Your ISP is always in the best position to snoop, effectively a Man in the Middle for all the web sites you browse, the streaming services you use, and so forth. All of your browsing and other use of the Internet goes through those ISP servers.

Your ISP has a strong economic incentive to take advantage of that best position: data on the web sites you visit and the downloads you select can be quite valuable to third parties. And don't think ISPs will ignore that incentive simply because you are a customer of the ISP; the big ISPs convinced the FCC to eliminate Net Neutrality rules so that the ISPs could solicit money from the likes of Netflix and CNN to accelerate delivery of those sites to your computer. So, use of a VPN consistently protects you from snooping by your ISP.

MORE ADVANTAGES OF A VPN

I have been using a VPN and HTTPS from my work site for more than a decade. I have seen no significant impact on communications speed. Computers do the encryption and decryption quite quickly these days.

An advantage of subscriber VPN services is that you have access to hundreds or thousands of VPN servers, in many cases spread around the world. If one is busy or down, you can easily use another. Redundancy is a very valuable advantage. Another advantage is that you can choose a VPN server located in a country where a local web site or video streaming service is of interest to you. For instance, the BBC streaming service is open only to users located in the UK. When the BBC servers detect a request from a US IP address, the servers ignore it.

if you use a VPN Proxy server in the UK, the UK IP address of the VPN Proxy server tells the BBC that you are local, and you then get to use that streaming service.

A third advantage is far less clear. According to PC Magazine, many VPN users in the US subscribe specifically because the federal government has eliminated the Net Neutrality rules. The idea is the ISP cannot throttle back what it cannot decrypt, meaning what it cannot recognize. NordVPN, for one example, actively promotes that idea on their company's web site. I am not convinced that idea is correct.

COUNT YOUR VPN-READY DEVICES

Another advantage is that subscriber VPN services let you connect more than one of your devices (computer, phone, tablet) to the VPN *at the same time*. This is important if you use two or more internet-connected devices, like I do. And it is a major convenience factor, allowing you to leave all your devices connected all the time, not just when you actively use each one. Snoopers can monitor the web browser on your phone or tablet just as readily as they can on your computer. A VPN can and should protect all of those devices.

Several VPN services that I reviewed set a ceiling on the number of concurrent uses by a single account, and that limit varies from 3 to 10. Because of that, before you select a VPN service, you need to make a realistic assessment of the number of concurrent connections you may need. For example, in my case: I have two Windows computers, two Android tablets, and one Android smart phone, a total of five devices. My son has a Windows computer, a Linux computer, one android tablet, and one Android smart phone, a total of four devices. So, our grand total is nine.

COMPARISON SHOPPING FOR VPNS

When I was shopping for a VPN service, I came across a review of public subscriber VPNs on **TechRadar.com**, published in March 2019. **Illustration 2** is a table comparing the top three VPN services according to TechRadar's ratings system, and some details about them. The number of servers and countries will likely continue to grow for each of the public subscriber VPNs.

| VPN service | # proxy servers | # countries | Ceiling on devices per account |
|----------------------------------|-----------------|-------------|--------------------------------|
| ExpressVPN www.expressvpn.com | 3,000 | 94 | 3 |
| IPvanish www.ipvanish.com | 1,200 | 60 | 10 |
| NordVPN www.nordvpn.com | 5,300 | 60 | 6 |

The column labeled ceiling of devices per account indicates the ceiling on the number of computers, tablets, and smart phones on which you run the VPN client software simultaneously. The column labeled # proxy servers are especially valuable for redundancy purposes. If one VPN proxy server happens to be down, or malfunctioning, then you can try many others. Generally, more is better.

Concerning the number of countries, although the overall situation worldwide is improving all the time, to some extent I think there are diminishing returns beyond about 50 countries. This is because smaller countries have fewer localized streaming services, and often do not have high bandwidth connections to the internet, so VPN servers in many smaller countries cannot work as rapidly a VPN server in say the US or Canada or western Europe or Japan or South Korea.

I chose to subscribe to the **IPvanish VPN service**. Its ceiling on the number of concurrent connections is 10. That was the most important factor for me. Later on, I found that VPN services are now so popular that PC Magazine reviews the services and provides Editor's Choice awards, their long-coveted recommendation. In 2019, the Editor's Choice awards went to three VPN services: TunnelBear (www.tunnelbear.com), Private Internet Access (www.privateinternetaccess.com), and NordVPN (www.nordvpn.com). NordVPN was the one service that was top rated by both TechRadar and PC Magazine.

PRICING

The VPN services have a monthly rate, usually less than \$10, and offer discounts if you pay in advance for say 3 months or for a year. Some even offer further discounts if you pay in advance for three years. Some VPN services have their business offices outside of the US and may charge your credit card to a bank outside of the US. You may wish to let your credit card company know in advance, so that the charges are not automatically blocked by your card company.

This ends Part 1. In Part 2, you will learn about some difficulties encountered on VPNs, and some workarounds.

ABOUT THE AUTHOR: John Krout is a former president of the Washington Area Computer User Group (WAC), one of two groups that merged to become the Potomac Area Technology and Computer Society (PATACS). He has been writing about personal computer uses since he joined WAC in the early 1980s. He is a frequent contributor to PATACS Posts, and occasionally provides presentations on tech issues at PATACS meetings. He lives in Arlington VA and is a writer for the Thales Group, a major maker of automated fingerprint identification hardware, supporting the use of that hardware in the computer system of a major federal government agency.

Windows 10 Taskbar Options

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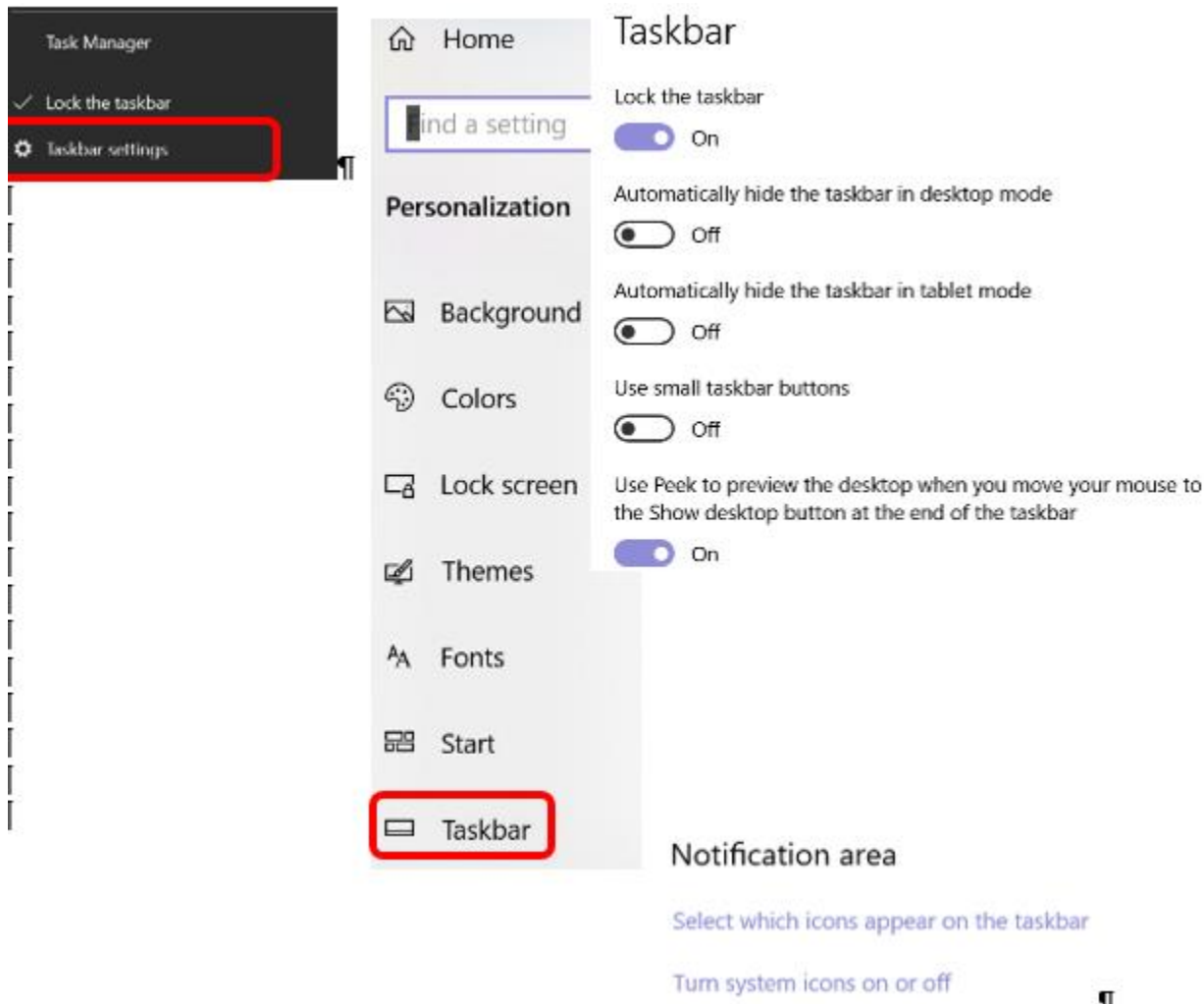
The taskbar is a very important part of the Windows 10 operating system. Arguably, its primary purpose is to make computing life for you, the user, easier. Like a lot of things in Windows 10, most of the features in the taskbar can be implemented or modified in more than one way. Some, directly on the taskbar itself. For instance, the order in which shortcut icons appear on the left end of the taskbar can be rearranged by simply moving the cursor to that icon, left click and hold with the mouse, then drag the icon left or right to the position that you want it to be in.

The taskbar is a great location for any shortcuts that you use often. One way to get that shortcut onto the taskbar is to right-click on any shortcut icon on the desktop and choose "pin to taskbar" from the list of options in the window that pops up. Or, click on start, pick the program that you want from the list that you can scroll through, right-click on that program, in the window that pops up, left click on "more" and on the sub-window that pops up, click on Pin to taskbar. If a program shortcut icon has already been pinned to the taskbar, you can "unpin it" in the same procedures.

One feature that some people love, and others hate, is auto hide the taskbar. When the taskbar is at the default bottom of the screen location, and auto hide is turned off, the taskbar is always visible and covers up at least one line of information at the bottom of the screen. When auto hide is turned on, the taskbar is hidden until you move the mouse cursor to the bottom edge of the screen. At that point the taskbar rises to visibility. I happen to prefer that setting.

One taskbar function that few people seem to be aware of, assuming "Lock the Taskbar" is not checked, is that by simply moving the mouse cursor to the top edge of the taskbar a double headed arrow appears. With the double headed arrow visible, a left click, and hold will allow you to move your arrow up and increase the number of lines that the taskbar covers, to half the screen if you want, or vice versa. Increasing the height of the taskbar allows you to have more of the larger icons that are easier to read.

The taskbar incorporates a large number of functions that could make your computing life easier if you studied up a bit on all the things that it can do. When you right-click on the taskbar, the first item on the window that pops up, at the bottom, is taskbar settings. It is recommended that you click on that and read all of the possible variations that the settings screen allows you to make. In particular, the section on system icons.



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OPCUG / PATACS Saturday Meetings

- 12:30 PM – Social time in Coffee Room and Annex
- 1:00 – 1:05 PM: TA-1: Meeting Start – Introductions, Announcements
- Please silence phones.**
- 1:05 – 1:19 PM: Q&A – detailed responses may be deferred to post-meeting communication.
- 1:20 – 1:50 PM: 'Learn in 30' Presentation
- 1:50 – 2:00 PM: Break in Coffee Room / Annex
- 2:00 – 3:20 PM: Featured Presentation
- 3:20 PM – Door Prize Drawings (usually 3) for each group. Eligibility - group members only.
- 3:30 PM – Adjourn (Expect some flexibility in scheduled times. Order may be varied to accommodate scheduling needs of our valued presenters.

In June and December, a PC Clinic / Tech Help session is run concurrently with the meeting starting at 1 PM in the Annex.

See: <https://www.patacs.org/clinicpat.html>

With the concurrence of presenters, meeting sessions are webcast using the Zoom.us cloud meeting service.

Dues-paid members may 'attend' from remote locations, using the meeting number information provided on the PATACS website.

Please see: <https://www.patacs.org/mtgdetpat.html#3rdsat>

Need more information about Zoom?
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December 2019 PATACS Event Calendar

Call (703) 370-7649 for meeting announcements

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| Sun | Mon | Tues | Wed | Thur | Fri | Sat |
|-----|---|------|---|------|-----|--|
| 1 | 2 | 3 | 4 7-9 pm Arlington General Meeting | 5 | 6 | 7 |
| 8 | 9 | 10 | 11 7-9 pm On-Line Zoom Meeting | 12 | 13 | 14 12:30- 3:30pm Fairfax General Meeting |
| 15 | 16 7-9 pm Arlington Board Meeting | 17 | 18 | 19 | 20 | 21 |
| 22 | 23 | 24 | 25 7-9 pm Arlington Tech & PC Help Desk | 26 | 27 | 28 |
| 29 | 30 | 31 | | | | |

Arlington: Carlin Hall Community Center
 5711 4th Street South
 Arlington VA 22204

Fairfax: Osher Lifelong Learning Institute
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