TC/PC Exists to Facilitate and Encourage the Cooperative Exchange of PC Knowledge and Information Across All Levels of Experience

August 2014

General Meeting
Tuesday, August 12, 2014
7:00 PM

How to Create a Bootable Flash Drive

Location: Summit Place
8505 Flying Cloud Dr
Eden Prairie, MN 55344

Bill James has been a member of the Computer Club of Oklahoma City since 1992. Currently he is the club's webmaster and newsletter editor. In addition he serves on the APCUG Board of Advisors. In this video from one of APCUG's Virtual Conferences, Bill explains the step-by-step process of creating a bootable flash drive. The bootable flash drive will allow you to run the programs from your hard drive on any computer. Bill also shows how to create recovery disks for the various versions of Windows. If you've always wanted to make your programs more portable, this is the meeting for you. See you there!

Saturday SIGS return in September! Check out the calendar on page 11 and add those dates for both Saturday September SIGs to your calendar.

TC/PC Business Members

Friendship Village

Metro Sales

Thank You!

The Digital Viking

The Digital Viking is the *official monthly publication of the Twin Cities PC User Group, an all-volunteer organization dedicated to users of IBM-compatible computers. Subscriptions are included in membership. We welcome articles and reviews from members.* The Digital Viking is a *copyrighted publication and reproduction of any material is expressly prohibited without permission. Exception: other User Groups may use material if unaltered and credited.*

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Multiple insertion discounts available.

Contact Sharon Walbran at:: SQWalbran@yahoo.com

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Payment must accompany order unless other arrangements are made in advance. Place make checks payable to: **Twin Cities PC User Group**

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Meets once or twice per year. All members welcome to attend.
Visit www.tcpc.com for meeting details.

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Last Month's Meeting—Annual Meeting and Pizza Feast
Sharon Walbran, TC/PC Users Group

In July we initially gathered at Summit Place, but then, because the group was small with only 12 members, we moved the meeting to Punch Pizza nearby where we were each treated to a personal sized wood-fired pizza and drink compliments of TC/PC. If you weren't there, you missed a good time. We held an informal meeting in which it was assumed that the current officers would continue in their positions on the Board for the coming year. Curt Trout suggested that we should take advantage of the blogging capabilities of our website and post articles of interest there for our members to read.

Recruiting speakers: It was decided that members, alone or in pairs, would pitch in by recruiting speakers for upcoming meetings. A sign up sheet for recruiting presenters for particular months will be passed out at the next meeting. You are welcome to recruit yourself as the presenter or you could recruit members to do a panel discussion or recruit members to do "show and tell" of a new gadget or service or you could arrange for a tour of a business or organization that uses computers or computer-based equipment. This should lead to presentations that will appeal to our audience of members and take the load off Board members doing this task.🖥

Upcoming Meetings

Tuesday, September 9, 2014: How to Improve Your Picture Taking using a SmartPhone Camera. Presenter: Tom Baker of Manitou Photos. Since smartphone cameras have become more popular than digital cameras for picture-taking, we all need to learn how to take advantage of the built-in settings on the smartphone cameras. Tom has taught this class locally and will provide tips on how to get the best photos.🖥

Adventures in 3D Printing
Jack Ungerleider - TCPC Web and Open Source SIG Leader

I went into this summer planning to continue my "Playing with Programming" blog and to provide an article or two for those who have been coming to the Linux on Saturday programming sessions. I want to apologize to those of you waiting for those articles; they aren't coming. This article will explain why and the title pretty much gives it away.

In late May I ordered a Printrbot Simple from Printrbot (http://printrbot.com). My order was placed just days after they introduced a new model, the 1405. The printer came a little over a week later and construction was done over the weekend that followed. After fixing a few flaws in my interpretation of the instructions I had a working 3D printer. Over the ensuing weeks much time has been spent configuring software, running test prints and a few prints of objects I want to make. Along the way I discovered the joys of constructive solid geometry and the program OpenSCAD (http://www.openscad.org). I also discovered software that allows me to control the printer via a web interface called Octoprint (http://octoprint.org). Octoprint supports webcams via a program call mjpg-streamer (http://sourceforge.net/projects/mjpg-streamer) for creating time-lapse movies of a print..

One of the things that led me to Octoprint was looking to see if I could support the Printrbot Simple using a Raspberry Pi. What I found was a mashup of Raspian (the recommended distro for the Pi) and Octoprint called Octopi (http://guysoft.wordpress.com/2013/08/04/octopi). I have Octopi loaded but have yet to hook it to the printer. This is my current adventure. If you are at the August General Meeting and you want to know if this works, find me. I should have it tested by then.

All in all it has been an exciting summer learning to print in three dimensions. As Bill Ryder said at the June meeting: we are in the early stages of working with this technology, there will be bumps in the road. While I haven't printed anything of great use or design yet, I have printed some things that have helped me learn some things that are possible and others that might not be. I can guarantee that 3D Printing in general and Printrbots in particular will make it into the discussion this Fall at Linux on Saturday.⌨   Go Page 1

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10 Malware Removal Apps Tested, Malwarebytes Comes out on Top
Patrick Allan, Lifehacker

Test Section 1: The antivirus solution was installed on an already infected system	Gradual testing of removal and system repair (number of malware samples)			
	Malware not detected	Active malware components not removed	Only harmless file remnants left behind	Complete remov clean system
Avast! Free Antivirus 9.0	0	2	2	26
AVG AntiVirus Free 2014	0	1	1	28
Avira Free Antivirus	1	0	5	24
Bitdefender Internet Security 2014	0	0	1	29
ESET Smart Security 7	0	0	2	28
F-Secure Internet Security 2014	0	0	2	28
Kaspersky Internet Security 2014	0	0	1	29
Malwarebytes Anti-Malware Free	0	0	0	30
Microsoft Security Essentials	1	4	3	22
Norton Internet Security 2014	0	0	2	28
Test Section 2: The antivirus solution was deactivated and reactivated after the system was infected				
Avast! Free Antivirus 9.0	0	2	2	26
AVG AntiVirus Free 2014	0	1	2	27
Avira Free Antivirus	1	1	2	26
Bitdefender Internet Security 2014	0	0	0	30
ESET Smart Security 7	0	0	7	23

A recent test done by the independent antivirus research group AV-TEST—whose tests we've mentioned in the past—took a look at the performance of today's most popular malware removal applications. Most of the applications showed excellent performance, but only Malwarebytes—a free download—managed a perfect score.

AV-TEST sought to answer an important question: can anti-malware software completely clean up and repair a Windows system after an attack?

It's a worst-case scenario many users have experienced: Malware defeats the security barriers of their system and becomes embedded there. Is it even possible, in the aftermath of such an attack, to restore the Windows system to its previous condition? It ought to work with the help of antivirus software or clean-up tools. But how effectively do these first responders do their job?

The good news is that overall each application was very effective at providing cleanup and repair to Windows machines, which is important if you think someone has broken into your machine or downloaded some suspicious plugins.

In the end, Malwarebytes Anti-Malware Free scored a cool 100% in total system repair. The **paid apps** Bitdefender Internet Security 2014 came close in second with a score of 99.4%, and F-Secure Internet Security 2014 tied with Kaspersky Internet Security 2014 at 97.8%. The **next best scores for free applications** came from AVG AntiVirus Free 2014 and Avast! Free Antivirus 9.0.

Remember, it's important to keep in mind that these were tested for malware removal and not for virus protection. We can show you what we think are the best desktop antivirus applications, and if you're curious to see how antivirus apps ranked at AV-TEST, click the link below to read more.

17 software packages in a repair performance test after malware attacks⌨   Go to Page 1

APCUG - Register for the 8/16 Virtual Tech Conference

APCUG's FREE 2014 Summer Virtual Technology Conference (VTC) will be held on Saturday, August 16, from 1:00 pm – 5:00 pm Eastern Daylight time. The sessions are 50 minutes in length and offer attendees the opportunity to ask questions via a chat window. Videos from earlier conferences can be found on APCUG's YouTube channel www.youtube.com/apcugvideos.

 To register for this VTC, please click on the below link:
http://bit.ly/APCUG-2014-Summer-VTC-Register

 This link is where you can view the presenter bios and, after the conference, you can download the handouts and get links to the videos.
http://apcug2.org/content/vtc12

Some of the presentation topics:

File Networking and Storage
David Williams, Secretary, Online Services and Programs, Central Iowa Computer User Group
Folders are not just for "My Documents" anymore, you can store files anywhere you want to. We will show you how to set up a network, set up storage devices and to organize your folders.

Linux is like Cars
John Kennedy, Member and Co-host, Linux Help Desk/SIG, Licking County Computer Society
One of the many "concerns" about Linux is that there are so many different versions/distributions (or distros as Linux users call them) that a new user doesn't know which one to use. And they wonder why there are so many, since they are used to only having one version with Windows and Macs. I reply, "Why are there so many different makes/models of cars?" The answer is that everybody doesn't like the same thing in a car, and that's the answer in Linux as well. In this basic presentation, I will show/explain what the main differences are in the many Linux distros, and (just like in cars) how you might decide which version is the one you might want.

Easy Desktop
Wil Wakely, Past President, Seniors Computer Group
Easy Desktop replaces the Windows desktop with a menu system as opposed to the thumbnail picture Icon system; however, it does require one to be able to read English. EDT has 9 pages of menus with each page holding up to 72 entries. Each entry can be a program, folder, document, picture or title. Come hear how you can eliminate desktop icon clutter, organize your programs and reduce your computer frustrations, especially with Win8.

Editing Photos on Your iPad
Sheila Bigel, eBlast Committee Chair, Central Florida Computer Society
The iPad has a large number of apps that will allow you to improve your photos. There are apps that provide basic photo editing features such as adjusting brightness, contrast, etc. Many apps provide a multitude of filters for special effects. Other apps allow you to add borders, text, clip art and create collages. This presentation will show a few apps that are fun, easy to use, and are free or nominally priced and will allow you to enhance the photos on your iPad. 🖥
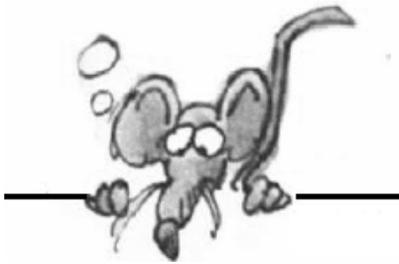
NIBBLERS

By Jeannine Sloan

Crime Mapping, Email Reports And Tips For The Public

RAIDS (Regional Analysis and Information Data Sharing) Online works … to allow law enforcement to share crime data with the public through an easy-to-use online crime map and analytics dashboard. Check the site for crimes in an area near the address you enter or community you select: http://www.raidsonline.com/?

Bulk Unsubscribe Service

Clean up your inbox. Save time on email with Unroll.me. Combine your favorite subscriptions into one email. https://unroll.me/

Disable Remembered Passwords

Web browsers aren't necessarily the most secure approach to saving your login passwords. I'll show you how to disable the feature and clear out any previously remembered passwords in IE, Firefox and Chrome. From the AskLeo newsletter http://tinyurl.com/laz46sr

Future of the Internet

The Pew Research Center, one of the better-known think tanks, on Thursday published the third in a series called "Digital Life in 2025." A couple of quotes from the article:
- "This is definitely a post-Snowden environment,"
- "Soon enough, almost all human activity and the Internet will be inextricable." (tangled, inseparable)
From a NY Times blog. http://tinyurl.com/mx56yhv

How To Get Security Updates For Windows XP Until April 2019

Read the article from ghacks.net thoroughly as it involves editing the registry. It does not sound too difficult but what do you have to lose. http://tinyurl.com/ltdx22f

Look 5 Pounds Thinner In Pictures

1. Step away from the camera
2. Turn to the side
3. Put your tongue against the roof of your mouth.
4. Angle your head up slightly
Waa-lah… you're 5 pounds thinner!

Term to Know: API

In computer programming, an **application programming interface** (**API**) specifies how some

software components should interact with each other.
http://en.wikipedia.org/wiki/Api

Virtru

- makes it easy to keep private communication private
- Encrypt emails before sending
- Control who has access
- Revoke messages and files at any time
- See where your messages are forwarded

In addition to its encryption features, Virtru offers users the ability to revoke access to an email at any time, akin to a digital self-destruct button. Users are also able to prevent messages from being forwarded and set them to expire at a specified date. Read more: http://tinyurl.com/lbjr2us

10 Immutable Laws of Security

Law #1: If a bad guy can persuade you to run his program on your computer, it's not your computer anymore
Law #2: If a bad guy can alter the operating system on your computer, it's not your computer anymore
Law #3: If a bad guy has unrestricted physical access to your computer, it's not your computer anymore
Law #4: If you allow a bad guy to upload programs to your website, it's not your website any more
Law #5: Weak passwords trump strong security
Law #6: A computer is only as secure as the administrator is trustworthy
Law #7: Encrypted data is only as secure as the decryption key
Law #8: An out of date virus scanner is only marginally better than no virus scanner at all
Law #9: Absolute anonymity isn't practical, in real life or on the Web
Law #10: Technology is not a panacea http://technet.microsoft.com/library/cc722487.aspx

Download More Songs for Free

Freegal music service from the Hennepin county Library now allows you to download five songs a week instead of three. Freegal's catalog includes current hits and an extensive backfile of a variety of musical genres from Alt-County to Zarzuela. Use your library card and the songs are yours to keep.

Microsoft and Google Collaborating!

The news that Microsoft is putting its weight behind Kubernetes, a new tool that seeks to improve the convenience and efficiency of cloud computing services. This is significant not only because Kubernetes was created by Google— Microsoft's biggest rival—but because it's an open source software tool that only works with the open source Linux operating system, traditionally held up as the bête noire of Microsoft's Windows OS. http://www.wired.com/2014/07/microsoft-azure-kubernetes/

How To Get Security Updates For Windows XP Until April 2019

Read this article from ghacks.net thoroughly as it involves editing the registry. It does not sound too difficult. http://tinyurl.com/ltdx22f (Repeated from the July 11 NIBBLER)

New IoT Group to Get Devices Talking Among Themselves

The new Open Interconnect Consortium believes "a common, interoperable approach" to the Internet of Things "is essential".. http://www.linuxinsider.com/story/80720.html#sthash.YD1Ia2y3.dpuf
I think this means your refrigerator will talk to your thermostat, etc. Hmmm?

Get a snapshot from a Video:

Use snip tool to get a still shot from a video. Start the video. Pause it. Open the Snip tool. Drag it over the shot you want. Then Save As JPG. Voila.
Contributed by Dianne Runnels

Lemon Juice

How to get more juice lemons. http://www.gourmet.com/food/testkitchen/2008/09/knauer_citrusjuicetip

Computer Dictionary, Terms, And Glossary

Browse through our list of over 11,000 computer definitions and terms.
http://www.computerhope.com/jargon.htm

Anaerobic Digestion Plant

Sainsbury's, a popular UK supermarket chain, is taking sustainable power to a whole new level by transforming it's own food waste into usable electricity. The company's store in Cannock, in central England, is now run entirely from energy harvested from recycled refuse. In other words, the food that doesn't get purchased and has to be thrown out is instead collected, and used to –quite literally– keep the lights on.
http://www.digitaltrends.com/cool-tech/uk-supermarket-gets-power-rotting-vegetables/#ixzz38OVUZPCy

Photo Quality

Image sensors, much more than megapixels, are the true path to image quality. http://tinyurl.com/pnwyemt

Twitter

#Tesla. The # is a hashtag. It's a label for your tweet. Other people can search for these hashtags — or click them — to see more tweets on the same subject. If you click "#Tesla," you'll see a whole list of tweets, all pertaining to the Tesla company and its cars. (You can also go to Twitter.com and type the hashtag into the search box.)
http://thenextweb.com/twitter/2012/09/15/a-list-twitters-language/

Steganography

A hidden, but not encrypted, message.

Sounds For Driving

The sounds you listen to supposedly have an effect on your driving. This site offers samples of music designed to make you a better driver in given situations. Some of the compositions are downloadable for free or available for purchase . The site is not in English but try the links and see what you think: http://soundsfordriving.com/#upplev

Does Wikipedia offer RSS feeds?

Follow any article on Wikipedia by subscribing to their Atom/RSS feed. Any change to an article will generate a message in the feed. Every article on Wikipedia has an RSS feed though they aren't obvious. Click the "History" tab on any Wikipedia page and you'll find RSS icons in the left toolbox.

Software Rot

The concept is very simple: over time a computer system becomes less well organized, less coherent and more chaotic. All that leads to degraded performance and instability. In other words, your computer gets slower and less stable as a result of use over time. Read more:
http://askleo.com/why-do-you-regularly-reinstall-your-system/?awt_l=MJWWI&awt_m=Jt2z4xMTFJdfbL

EXIF Data

EXIF data is included in all digital image files. It includes what camera and settings were used when the picture was taken and often the data includes the GPS location. This is info you may want to remove before posting pictures online. Here's how using Windows Explorer (File Explorer in Win 8):

If the photographs are in one folder, you can easily remove the EXIF data from one or more of these photographs using Windows Explorer itself without requiring any additional software. Select all the images files, right click and choose Properties. Now hit the Details tab and click on the "Remove Properties and Personal Information" link. The next screen will give you an option to remove the various metadata that is embedded inside the pictures. Simple.

Good Anti-malware Practice

Select a single, good anti-virus program, install it and enable its real time component.

Select a single, good anti-spyware program, install it and enable its real time component.

What's important here is that you know what components your anti-malware tool is providing, and not duplicate that with another tool.

Quoted from askleo.com

Prize Drawing at August TC/PC Meeting

   Active members with paid-up dues are eligible for the prize drawing at the August meeting. This month's prize is:

The book, Linux Command Line, from O'Reilly Publishing.
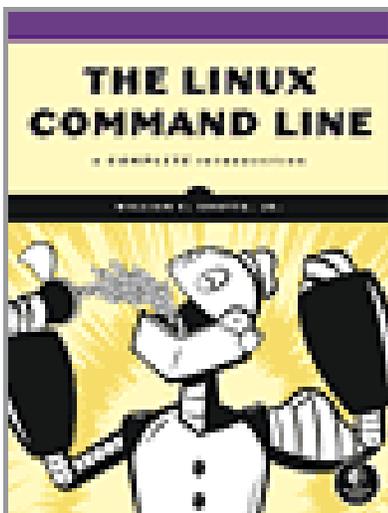
Special Interest Groups (SIGs)

Most SIGs will meet at Edina Executive Plaza, Conference Room #102, 5200 Willson Road, Edina, MN
 Confirm with a SIG group if they meet elsewhere.
For more info contact the SIG Leader(s) listed here.

Get SIG announcements!
Link from www.tcpc.com

Board of Directors*
All members are welcome! Check www.tcpc.com for location.
Selected Saturday mornings

Linux on Saturday
This is for the Linux newbie and those trying to come over from Microsoft to a different operating system.
First Saturday @ 9 AM-Noon
Note: No Meetings June-August

Jack Ungerleider   612/418-3494 c
                jack@jacku.com

Picture Perfect
Explore how to use your digital camera and learn how to use a variety of software for editing, organizing, and sharing images and video.
Second Tuesday 6:00—7:00 PM
Every other month
Right before the general meeting
Sharon Walbran   SQWalbran@yahoo.com

Microsoft Access
All levels. Presentations by expert developers within the group and by MS reps.
Third Saturday 9:00 AM—Noon
Note: No Meetings June-August

Steve Kuhlmey   952/934-8492
                steve@kuhlmeysystems.com

Microsoft Office
Addresses the use, integration, and nuances of the Microsoft Office applications.
Combined with Systems on Saturday
Third Saturday of the Month
Note: No Meetings June-August

Steve Kuhlmey   952/934-8492
                steve@kuhlmeysystems.com

Web Page Design
Discussion and demonstration of HTML, web publishing software and page design.

Second Tuesday @ 6:00-7:00 PM
Every other month
Right before the general meeting.

Jack Ungerleider   612/418-3494 c
                jack@jacku.com

Microsoft Word for PC & Mac
Any level user can be proficient and efficient in basics and advanced features of Word..
Combined with Systems on
Third Saturday 9:00 AM—Noon
Note: No Meetings June-August

Tom Ostertag   612/951-5520 w
                651/488-9979 h
Curt Trout   651/484-4569 h
            ctrout@troutreach.com

Systems on Saturday
For all levels of computer challenges and any type of computer-related question. Incl. Q&A
Meets 3rd Saturdays 9:00 AM-Noon
Note: No Meetings June-August

Curt Trout   651/484-4569 h
            ctrout@troutreach.com

Directions to **Summit Place** for **General Meetings**:
Proceed to Eden Prairie Center Flying Cloud Drive . [Flying Cloud Drive runs along the West side of the Eden Prairie Center.] Once you have driven past Eden Prairie Center (on the left) along Flying Cloud Drive you will come to a stop light at Prairie Center Drive. The next intersection with a stop light and left turn lane is Fountain Place. Turn left at Fountain Place and go straight into the parking lot. Turn left again to the first covered entry way of Summit Place. There is plenty of parking in the large parking lot in front of the first Summit Place covered entry way. When you enter the door at the first covered entry way, ask to be directed to the Performance Room for the TC/PC meeting. For a map of more detailed directions and *info on Web SIG and Board meeting*, check the TC/PC website.

Directions to **Edina Executive Plaza** for **Systems on Saturday, Access, Word and Picture Perfect SIGs**: Take Highway 100 to the 50th Street/Vernon exit. [If you have come from the north, cross back over Highway 100 to the east side.] Take the first right and go past Perkins [The golf course will be on your left.] and continue on the east frontage road (Willson Road) to the next building—5200 . There is ample parking in the building's lot. Conference Room #102 is on 1st floor.

Help yourself by helping others!

Join the team & share your knowledge with others.

Contact TC/PC at www.tcpc.com

Meetings start at 7:00 PM (9:00 AM on Saturday) unless otherwise noted. *Meets at Edina Executive Plaza.

August

SUN	MON	TUES	WED	THU	FRI	SAT
					1	2
3	4	5	6	7	8	9
10	11	12 Gen Mtg 7:00 PM Create Bootable Flash Drive 6PM Web SIG	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

September

SUN	MON	TUES	WED	THU	FRI	SAT
31	1	2	3	4	5	6 Linux on Saturday 9:00 to Noon
7	8	9 Gen Mtg 7:00 PM Better Photos from Your SmartPhone 6PM Pic Perf SIG	10	11	12	13
14	15	16	17	18	19	20 MS Office (Including MS Access) 9:00-Noon
21	22	23	24	25	26	27
28	29	30				

Alternative Ways to Legitimately Save Money When Buying a Cell Phone

by Ira Wilsker, iwilsker(at)sbcglobal.net

WEBSITES:

https://beta.congress.gov/bill/113th-congress/house-bill/1123

http://bits.blogs.nytimes.com/2014/07/25/bill-legalizing-unlocking-cellphones-passes-congress/

http://www.ktvu.com/news/news/national/congress-oks-unlocking-phones-carriers/ngpKY/

http://www.t-mobile.com/verifyIMEI.aspx

http://www.verizonwireless.com/b2c/nso/enterDeviceId.do

http://www.gethuawei.com

http://e.dx.com/collection/201407/Doogee/auus/default.html

http://www.expansys-usa.com

http://deals.ebay.com

http://dealnews.com/c171/Electronics/Phones-Cell-Phones/

Over the past few weeks, I have been searching for a new smart phone to replace my existing, malfunctioning smart phone. A visit to my carrier's website and company owned phone store offered a wide selection of new phones, but for the high-end models that I was considering, the prices were exorbitant. I had even considered a highly rated smart phone that had been on the market for well over a year which was a "generation" old, and been supplanted by a greatly enhanced newer model. This "older model" would still cost about $650 at the carrier store if purchased outright, or an extra $27 per month for 24 months added to my cell phone bill if paid off over a two year period. I was well aware that these were full retail prices, and that the carrier often had selected phones on sale for up to half off, but during their recent sale period the phone models that I liked were either not on sale, or were not reduced enough to put them in the "good deal" category.

Being known by the local computer club and by my coworkers as the "resident cheapskate", I decided to search for alternative ways to legitimately purchase a new (to me) smart phone with the features that I was looking for at an acceptable price.   Initially, I had narrowed my first choice for a phone to a Samsung Galaxy S4, an Android phone, which has been on the market since the Spring of 2013, but now replaced by the Galaxy S5, and other worthy competitors. Showing a retail price of $699 if purchased outright from a major cell phone provider without a contract, but as low as $49.99 from one carrier if purchased with a two-year contract in which the full price of the phone was amortized over the life of the contract, with the price of the phone being built into the monthly rate. Some of the carriers offered "refurbished" Galaxy S4 phones discounted to around $400, with one carrier being listed on a daily deal website offering a "one day only" online special on a refurbished Galaxy S4 for $348, which was very tempting. If purchased from a carrier, that device is typically "locked" and can only be efficiently used on that particular carrier. My old phone was still somewhat functional, so I decided to continue to shop around.

My first place to look was eBay, as at any given time, they have countless thousands of new, refurbished, and used cell phones listed. eBay had hundreds of listings for the Galaxy S4 varying in condition from "new in box" to being sold for parts only, with the majority being listed as used, while a handful were listed as "refurbished". Several variants of the Galaxy S4 were also listed, including a waterproof model. Not willing at present to switch cell phone carriers, I narrowed the search to phones locked to my existing carrier, or GSM phones that were listed as unlocked, meaning they would likely work on any GSM carrier. Some points to note are that locked phones generally can only be used on the carrier that "locked" or originally sold them, and that unlocked phones using the same method of communicating as my carrier (like GSM or CDMA), may offer at least basic functionality, but may not be totally compatible with the latest offerings of the carriers in terms of high speed data, such as 4G-LTE compatibility. Be aware that some people are selling versions of the same

phone that were originally designed for foreign carriers, and while shown as unlocked, may have some serious compatibility issues on domestic networks. Most of the sellers of that phone on eBay listed the manufacturer's model number, which could be easily searched on the internet or the maker's website, which will expressly show the capabilities of the phone. A quick comparison with the specifications on the carrier's website will indicate the likelihood of compatibility; I found several apparent "good deals" on "refurbished - like new" unlocked Samsung Galaxy S4 GSM phones that would apparently work on my carrier's network, but were incompatible with the latest type of 4G data speeds offered by my carrier, but would work fine at the older (slower) 3G or 4G speeds. Similar unlocked offerings were listed on Amazon, but Amazon also often offered the locked phones sold by the carriers, with or without a contract, often at discounted prices. Other bargain prices on new cell phones can be found on a daily basis at "daily deal" websites such as deals.ebay.com and at dealnews.com/c171/Electronics/Phones-Cell-Phones.

One warning about buying any used cell phone from any source, including individuals, local advertisements, pawn shops, mall kiosks, eBay, and other sources; it is no secret that huge numbers of cell phones are lost or stolen every day. Every cell phone has a unique serial number, often known as an IMEI or ESN number, which if reported lost or stolen, can often prevent that particular phone from being used on its original and often other compatible networks. All of the carriers offer a free online check to confirm the validity of a serial number, or the carriers can be contacted by phone to check to see if a particular phone has been previously reported as lost or stolen. So called "hot" phones may apparently be in excellent condition, and offered at a great price, but there is a good chance that they can never be connected to a compatible domestic network. T-Mobile phones can be checked at t-mobile.com/verifyIMEI.aspx, while Verizon phones can be checked at verizonwireless.com/b2c/nso/enterDeviceId.do (item #2 on the list). AT&T, Sprint, Virgin, and other carriers offer similar services online or by calling their respective 800 numbers.

Buying from a local or online big-box store may possibly offer better prices than the cellular carrier's company owned stores or independently owned agency stores. Online stores such as Newegg, TigerDirect, Rakuten (formerly known as buy.com), and others often list new, used, and refurbished, locked or unlocked, cell phones at deeply discounted prices. Buying from a major, reputable seller may have some advantages, as they are more likely than lesser companies to stand behind their products in the event of any problems. As an example, a quick search on one of the above sellers displayed the Samsung Galaxy S4, branded and originally sold by one of the major domestic carriers, but now unlocked, new for $349, and used for $285. It should be noted that there are numerous builds and sub-groups of Galaxy S4 phones, such that the buyer should be acutely aware of what he is buying, and to compare the different models offered, even if they have the same general model number such as "Galaxy S4".

As I was doing my research on a new smart phone, I read many reviews both on my carrier's website and third party websites, seeking that perfect phone that would meet my needs, but at a reasonable price. As I expanded my search to other models of compatible phones, I found that I could purchase fully functional new phones, at deeply discounted prices. I was surprised to find Google was directly selling new, unlocked Android phones, manufactured by the major companies, with the same model numbers as the carrier phones. The phones sold by Google lacked all of the proprietary utilities and app "overhead" of the identical phones sold by the carriers, which freed a substantial amount of the storage (memory) on these phones, and according to some reviews, actually slightly improved their performance. These phones are listed as the "Google Play Edition", and currently include the HTC One (M8), Moto G, and the Samsung Galaxy S4. Coming from Google, these phones are listed as having the latest version of Android installed that is compatible with that model phone, and will automatically receive the next version of Android when it is released. While Google will sell these phones directly at retail price ($649 for the Galaxy S4), they also wholesale these phones to third party sellers. Google claims that these phones are ready to go and fully functional on any compatible carrier, which for the GSM phones are T-Mobile and AT&T.

One of the online stores that offered deals on the Google Play Phones was the Bloomington, Illinois, based eXpansys (www.expansys-usa.com). Being somewhat suspicious of online services offering excellent prices, and since I was unfamiliar with the company, I checked the Better Business Bureau website, and found that the company is eight years old, and has an "A" rating from the BBB. Now, with some degree of credibility, I found that they are selling new and unlocked, the Google Play Edition of the Samsung Galaxy S4 for $399 with $10 shipping; a full $250 to $300 less than the same model phone would cost if purchased outright from a local phone store.

Other fully featured, unlocked, discounted Google Play Edition phones listed by eXpansys are the Sony Z Ultra for $349.99 (retail, $649), HTC One for $399.99 (retail, $649), and the LG G Pad 8.3 for $225 (retail, $330). Many other models of new phones, both locked and unlocked were available, and "Deal of the Day" and "Wednesday Markdown" specials are offered; in fact, I originally found this company on one of the larger "daily deal" websites.

I was seriously considering the Google Play Edition Samsung Galaxy S4 listed above, and had just about made up my mine to purchase one, when I saw a freshly published review of another just released smart phone. The specifications of this new smart phone totally outclassed the Galaxy S4, was highly competitive or superior in terms of features and function with the newer Galaxy S5, and even outperformed most of the features in the latest iteration of the iPhone, but at less than half of their retail prices. Again being suspicious, I thoroughly checked out other independent reviews of the mystery phone and its maker, and made a decision to buy one.

Many people may not recognize the manufacturer, Huawei, but they are a major manufacturer of cell phones, producing several models of cell phones sold by the major carriers. This particular phone, the Ascend Mate2, has a large, sharp, and bright 6.1 inch HD screen, putting it in a class that some pundits refer to as a "Phablet", as it is almost as large as the popular 7 inch Android tablet, but has the usability of a smart phone. The screen on this phone is made of the almost unbreakable Corning Gorilla Glass 3, and has a very long lasting battery. Extremely fast and feature rich, using a 1.6GHZ Quad-Core processor, 32 GB of internal memory (expandable up to another 64GB using a common micro SDHC memory card), this phone is thin, and surprisingly lightweight for such a large phone. I mostly carry my phone in a shirt pocket, and this phone does fit in most of my shirt pockets.

The Ascend Mate2 operates on one of the latest builds of Android, and will be upgraded to newer versions of Android after they are tested and proofed, including the upcoming version nicknamed "Android L". Huawei decided to sell the Ascend Mate2 directly to the consumer, without the additional markups imposed by the big carriers. Currently available in GSM only, this phone is fully compatible with T-Mobile and AT&T, including their latest and fastest versions of 4G, such as 4G-LTE. Available with free shipping from Huawei at gethuawei.com, or from its other sole source seller, Amazon, this phone sells for only $299 (plus sales tax) with free shipping. Since it is a direct purchase and unlocked, it only requires that a compatible SIM card be installed in the back of the phone. Most current AT&T and T-Mobile customers can simply remove the SIM card from their current phones and insert it into the Ascend Mate2; no further activation is normally required, and both carriers now readily accept this phone on their respective networks. Other users, those without an AT&T or T-Mobile account, may have to obtain a compatible SIM from the respective carrier, and sign up for an appropriate service plan, but monthly rates may be more reasonable as they are not including the cost of the phone in the monthly plan.

For those who are currently happy with their phones, but who may wish to take advantage of the newly lowered monthly rates and improved plans offered by competitors without purchasing a new phone, help is on the way. Both houses of congress recently passed HR1123, the "Unlocking Consumer Choice and Wireless Competition Act, which will again legalize consumers "unlocking" their cell phones, and using them on another compatible carrier. Expected to be signed by the president into law by the time you read this, this law will not excuse users from any existing contractual obligations with their current carrier, but will allow users to take their current phone with them when they switch to another compatible carrier, such as between AT&T and T-Mobile. Some of the major cell phone carriers have already implemented a "We'll pay your early termination fee" program for those switching to the new carrier, but now consumers may be able to continue to use their current compatible phones, rather than be required to purchase new phones from the new carrier. To encourage new business and to retain existing customers, almost all of the major carriers already have a "bring your own phone" policy. As the title of the law says, this should increase consumer choice among carriers, as another potential obstacle of switching carriers has come down.

For those willing to take the time and effort to do a little research, a greater selection of compatible cellular phones are readily available, often at deeply discounted prices, when compared to the offerings of the cell phone companies. Unless you want the convenience of purchasing a new (or refurbished) phone or tablet directly from your carrier, substantial savings on new phones may be available from others, such as those Google Play Edition and Huawei phones mentioned above. 🖥️

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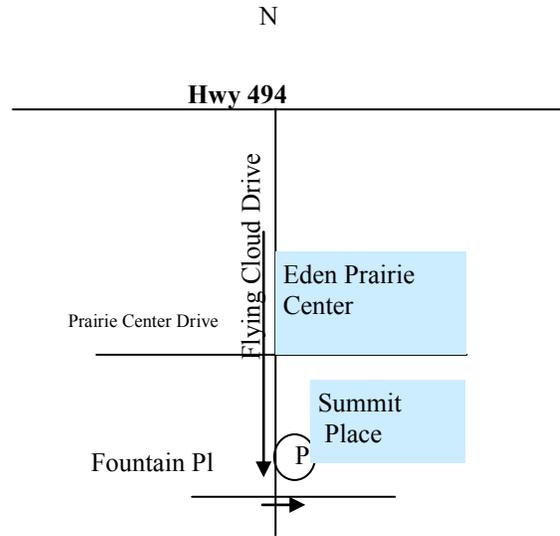
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