

# Bits & Bytes

Arkansas' Premier Computer Club



## April 2024

**The Bella Vista Computer Club - John Ruehle Center**

Highlands Crossing Center, 1801 Forest Hills Blvd Suite 208 (lower level), Bella Vista, AR 72715

Website: <http://BVComputerClub.org>

Email: [editor@bvcomputerclub.org](mailto:editor@bvcomputerclub.org)

### MEETINGS

**Board Meeting:** April 8, 6pm, in John Ruehle Training Center, Highlands Crossing Center.

**General Meeting:** April 8, 7pm. Program: "Why Do I Need to Backup", based on several recent APCUG presentation on backups.

We will meet in-person in **John Ruehle Training Center**, Highlands Crossing Center, lower level, 1801 Forest Hills Blvd, Bella Vista, or you may attend the meeting on-line via Zoom. Zoom access information is published on our website.

Visitors or Guests are welcome.

**Consider attending by Zoom if you are unable to attend in-person.**

### HELP CLINICS

**April 6, 9am - noon at John Ruehle center**

**April 17, 9am - noon at John Ruehle center**

Members may request Remote Help on our website at <https://bvcomputerclub.org> at menu path Member Benefits ► Remote Help .

### MEMBERSHIP

Single membership is \$30; \$15 for each additional family member in the same household.

Join on our website at <https://bvcomputerclub.org> at menu path Get Involved ► Join/Renew, by mailing an application (from the web site) with check, or complete an application and pay in person at any meeting.

### CLASSES

(At BVCC Training Center)

**Wednesday, April 10, 9am-11am, "Data: Where Is It and What To Do With It", with Pete Opland.**

**Wednesday, April 24, 9am-11am, "Why, When and How to Backup Your C Drive", with Pete Opland**

Advance sign up required for each listed class: For reservations: email to [edu@bvcomputerclub.org](mailto:edu@bvcomputerclub.org), or sign up at the General Meeting. Classes are **free to Computer Club members.**

**Check the monthly calendar and announcements for any last minute schedule changes at <https://bvcomputerclub.org> .**

## **NEW OR RETURNING BVCC MEMBERS**

We are pleased to welcome the following new members or members returning as BVCC members after an absence:

Richard Kuhlman

Mary Jane Kuhlman

Rita Drake

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## **MARCH COMPUTER RAFFLE**

We want to thank all who participated in the March computer raffle. The net from the raffle was \$1,150.

To meet just our fixed expenses associated with our Training Center from dues alone would require at doubling of our annual dues, which is probably not practical. We prefer to keep the dues lower to encourage membership, and make up the difference through donations. It currently takes annual donations in various forms of almost \$4,000 for BVCC to break even, so the raffle income is a significant part but still only a part. Last FY we were fortunate in that donations (raffle, refurbished computers, a grant, and direct donations) totaled almost \$8K, which enabled us to do some much needed equipment upgrades in the Training Center and even slightly increase our cash reserves.

The winner of the random drawing at the end of the March General Meeting turned out to be our own Pete Opland, who had two tickets in the pot to support the raffle with no expectation of winning the computer he had refurbished! After the meeting, Pete chose to draw another random ticket from the pot and awarded the computer to the winner of that drawing. The ultimate owner of the computer turned out to be Larry Wilms, who has been a member of BVCC since March 2020.

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## **SMARTPHONE WIRELESS CONNECTIONS – HELP KEEP US CONNECTED**

By Phil Sorrentino, Secretary and APCUG Rep  
Sun City Center Computer Club, FL  
<https://www.sccccomputerclub.org/>  
philsorr \*\* yahoo.com

The smartphone is a wireless marvel. You may not have thought about your smartphone in this way, but your smartphone may be able to connect to up to five different wireless networks. (I'm sure this would have made Nicola Tesla very happy, he is credited with the wireless transmission of energy via his patented Tesla coil, though Marconi got the credit, and the patent, for inventing radio communications.) Just think about the hardware and software that allow your smartphone to participate in five different kinds of networks, all wrapped up in your smartphone package along with all the other electronics needed to support a powerful computer system. I bet even Steve Jobs would be impressed.



## Cell Phone Network

The most apparent wireless network your smartphone works with is the one you initially bought your smartphone to use; that is the cell phone network supported by all those antenna towers that have sprouted up all over in the past 40 years. (Not many landlines around anymore.) This network lets you keep in voice contact with just about anyone since over 91% of the people in the world has smartphones; that's over 6.6 billion possibilities. (Even more impressive is that most Americans – 97% now - own a cellphone. The share of Americans that own a smartphone is now over 85%). This cell phone network also provides access to the internet when you are out and about. The internet is considered a "Wide Area Network" or WAN. A WAN is an extensive computer network spread over a wide geographic area. A network's speed is its data speed or data rate and is measured in bps or bits per second. Typically Mega bps or Giga bps. WAN data rates are typically around 150 Mbps. When you are not out and about and are within a Wi-Fi network, the Wi-Fi router provides access to the internet. Without this ability to be constantly connected to the internet, I'm not sure how many would own what would only be a competent personal digital assistant.



## Wi-Fi Network

So, Wi-Fi is the second wireless network that your smartphone can take advantage of. Wi-Fi is considered a "Local Area Network" or LAN. A LAN is a collection of wired and/or wireless connected devices typically in your home or office. LAN data rates can be from 100 Mbps to 1 Gbps. Using Wi-Fi, you can connect to the many servers on the internet. The use of your smartphone in this manner is sometimes called "Cloud Computing" because you are accomplishing a task on the smartphone by using the resources of a server computer somewhere out there on the internet (in the cloud), like using GPS and the Maps or Waze app on your smartphone to help navigate you from home to a place you've never been to before. Cloud Computing is just a more common term for "Client-Server Technology," which allows our smartphones to take advantage of powerful computer servers connected by the internet.



## GPS Network

Remember that every wireless network your smartphone can work with requires a transmitter, a receiver, and an antenna in the smartphone so that it can send data to and receive data from the other network members. (This is only possible because of digital electronic circuitry; this would never have been possible in the analog electronics

world. Thanks to micro-miniature integrated circuits that typically get smaller and cheaper over time.) Though GPS, which is a third wireless network, is an exception. Your smartphone only has GPS receivers and antennas, no GPS transmitters. But it has multiple receivers because to determine your location, your smartphone has to receive data from at least 3 GPS satellites. (More detail than that may be the subject of a future article.)



### Bluetooth Network

The fourth wireless network supported by your smartphone is Bluetooth. You may not have taken advantage of this feature unless you have a relatively new car and you have introduced (paired) your smartphone to the car's entertainment system. If you have, you are familiar with one of the best safety features in the new cars, the ability to receive and make calls from your smartphone while always keeping your hands on the steering wheel. (Now, if they could only convince the many speeding drivers to stay under the speed limit; another topic for a future article.) Bluetooth has also become the preferred connection for speakers and headphones (earbuds). Bluetooth headphones are for quiet listening, and Bluetooth speakers are for loud listening (a whole lot louder than the sound capability of the smartphone). Bluetooth is considered a "Personal Area Network" or PAN. A PAN is a computer network for interconnecting devices within a person's workspace. It transmits data among devices such as computers, smartphones, tablets, and personal digital assistants. Bluetooth data rates can be as high as 1 Mbps.



### NFC Network

The fifth wireless network may not be available on some older smartphones or even some new ones. This network is called NFC or Near Field Communications. NFC is a set of communications protocols (rules) that enables communications between two devices over very short distances, maybe an inch or two. It facilitates data transfer between nearby smartphones, laptops, tablets, and other devices. NFC data rates are around 400 Mbps. NFC is used for making easy contactless payments with your smartphone using Apple Pay or Google Pay. Just enable the amount in the payment app and touch the smartphone to the NFC reader or terminal. This type of payment protects your payment information with multiple layers of security to help keep your account safe. The payment terminal does not share your card number when you pay, so your private information stays secure.

So, with these five networks, your smartphone helps you keep in touch and connected.