

The State of Broadband in the Northern Neck – 19 November 2011

Charles Wrightson, a former Rappahannock Community College adjunct professor in computers, was our speaker. His topic was a **commentary on the general state of broadband Internet access (high-speed wireless), or lack thereof, in the Northern Neck and the proposed Federal Communication Commission (FCC) changes to the Universal Service Fund (USF).**

What are the necessary elements for something to be broadband?

There must be two things – how much data can be passed and how fast can it be transmitted.

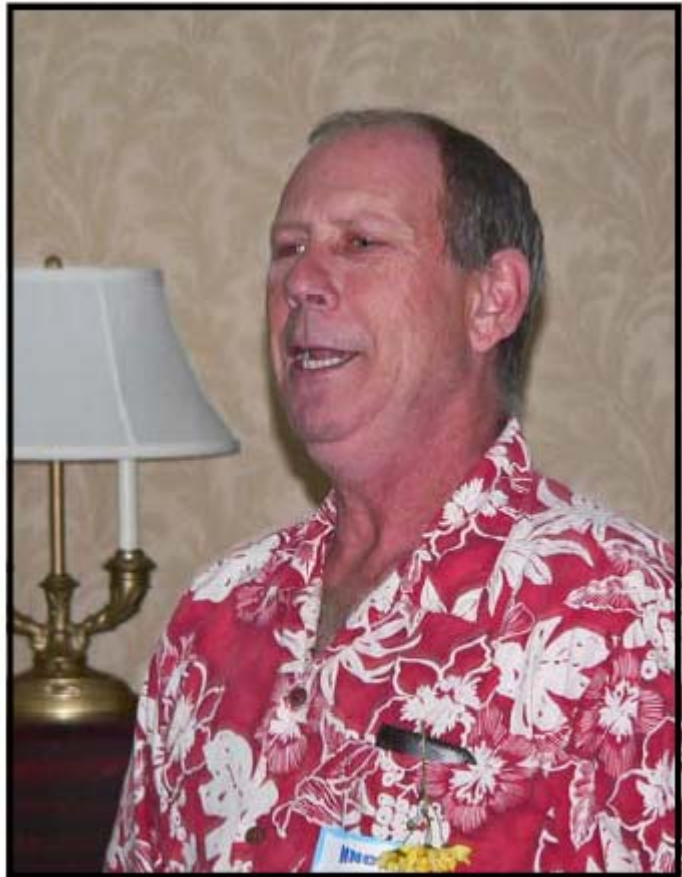
There must be **BOTH a high data transmission rate (bandwidth) and very fast (low latency) connection to the Internet.** Generally, broadband is commonly defined as being 2 to 4 mbps with low latency. If one sees the little rotating circle while connecting to something on the Internet, there is no broadband!

In response to a question, Charlie said it is not necessarily fraudulent for someone to advertise a service as broadband, even if it does not meet the strict definition. There is no set definition, and broadband is sometimes jokingly referred to as “fraudband.”

The **problem on the Northern Neck centers on the small size of the backbone** or “pipe” out to the Internet. **In essence there are too many people trying to use the pipe to get data, thus exceeding the limited capacity;** this results in high speed being lost. This is not the same issue as getting a signal from one’s home to the phone company central “office” or hub.

DSL is true broadband using copper lines, if one can get it in this area. **FIOS**, also true broadband, uses fiber-optic cables, which are virtually non-existent in this area. Generally fiber-optic cables are buried in the ground and would carry data and phone signals.

Does wireless transmission solve the problem? Not really. A tower may have a wireless transmission range of three to five miles. However, the **tower must then send information from Kilmarnock to its destination via the “pipe”.** And as Charlie noted, the current one is too



Charlie Wrightson
Photo by Alan Christensen

small! Unfortunately, the company (Verizon) has expressed no interest in upgrading outlying areas to a higher capacity.

Satellite Internet access is not broadband.

One can get enough bandwidth but does not give the needed low latency. Therefore it is not high speed broadband.

So what does this mean for the user?

Users can get Internet service in the Northern Neck area; however, it is slow, and often frustrating. Trying to download a movie with dialup, or even some local “broadband” is not fast! Slow Internet access can have an adverse effect on residents of the area. Charlie noted that 80 percent of companies now want an applicant to fill out job applications online, and 50 percent of current jobs require that data be obtained from the Internet. Schools and colleges offer online courses: frequently the student is expected to get course materials on line. Information sent in Adobe format can take hours to download. Skype, which consists of pictures and audio, does not work too well in our locality.

Businesses insist on broadband access.

Productivity is enhanced with video conferencing and this requires a broadband connection. For instance, in Westmoreland County, fiber optic cable for broadband connections has been installed in their industrial park, but it is not be available to the general public. Other areas where access to broadband is essential are in medical facilities where records cords can be viewed on line. Broadband would allow doctors to consult by video with patients. In the Northern Neck, it is important that people involved in agriculture and fishing have easy, instant access to radar and weather information via the Internet for planning and safety reasons.

Charlie then discussed the role of the FCC and funding in broadband communications.

The FCC is supposed to regulate interstate communications including broadband programs. Local communication is exempt from their regulation. However, the Internet is interstate in nature at the very least.

The USF was originally established for the purpose of connecting people in rural areas to the telephone system using copperlines, where it was not cost effective for the private companies to do so and to support public agencies such as libraries. Funding came from placing a small surcharge on each long distance phone call. There have been enormous changes in how Americans communicate by phone. Thirty percent of families no longer rely on landlines; cell phones have replaced them. This is one reason why telephone companies are not fixing the aging infrastructure, especially in rural areas. The USF fund paid a subsidy to fund installation of rural copper phone lines, however, the Fund has not been used to **update** telephone lines. The **original goal has been met** and now the desire is to shift some of this USF funding to a new fund called the Connect America Fund (CAF).

The purpose of the CAF would be to substitute the copper wire subsidy to cover costs of connecting over the “last mile” wirelessly to customers. In other words, **to connect rural America to wireless broadband networks in areas where it is not cost effective to do so now.**

The proposal being considered is to set up the CAF funded by a small surcharge on long distance calls. The proposal would remove the mandate for copper lines. This envisions a wireless infrastructure. This proposal is aimed at the “little” guys, small town USA, rural telephone companies; it would act as a subsidy for rural localities. **In order to effectively implement a rural wireless infrastructure, the main data pipe and the connection to the user issues will have to be resolved.** The timeframe for implementation has not been addressed.

There are many complaints about this proposal; it is seen as a city versus country issue. Furthermore, establishing a rural broadband capability is not particularly cost effective. However, looking at our history, this country has subsidized the building of the railroads, canals, rural electrification, as well as building interstate highways, miles of which go through sparsely populated areas.

This discussion also brings up considerations about the role of government. Is it to do what corporations and citizens cannot do for themselves? What is the role of the state government? Charlie believes that they are to be a “partner” with the Federal government (FCC), and funding may be received in the form of a grant program.

Mr. Wrightson feels that **having a broadband platform in the Northern Neck is essential to a healthy economy, and will be the “platform” for future economic development.**

The existence of broadband capability also has implications for homeland security, law enforcement and firefighters. The main data pipe needs to be expanded to accommodate the needs of business and private individuals. He discussed pros and cons of various actions that we could take. We might raise money and hire a lobbyist, create a special tax district (probably dead on arrival), enlist the aid of economic development offices in the counties, and point out the number of jobs lost for lack of an adequate broadband system to support businesses.

Finally, Charlie noted that we have enough physical towers. The issue is that the equipment installed on the towers is inadequate; however, equipment becoming available in the next four to five years may cure this problem. Another questioner wondered if we could get broadband with cable. He answered, yes, but it still wouldn't work – the data pipe squeeze is the issue.

Charlie, thank you for giving us a fascinating overview of the state of current broadband technology in the Northern Neck and the reality of trying to improve capacity and service.

Anne Moss