Crossing the Digital Divide Volume 30

"Bring it On"

by Joseph Feigon

for the Observer

It's hot and dry out there, the brisk mornings a reminder we'll be dealing with rain and cold soon after harvest. Days get shorter, nights colder, and less to do "outside" until the planet moves closer to the Sun.

Projects, wood fires, books, and videos (or streaming media) help us weather the months we can't spend the day outdoors. We'll have an election to distract, news to rejoice or complain about, and periods of time where our Internet connections will not work, or are so insufferably slow you can't work.

The Ruff fire last week further reinforced the need for competition here in the North Counties. One fiber conduit carries most of our voice, cellular and Internet traffic through the hills along the 101 corridor. One provider, single-point-of-failure, no dial tone. Why?

How much data can you shove through a fiber optic cable? Quite a lot, as it turns out. Using the ITU standard 50 GHz dense wavelength division multiplexing grid, not only can you easily do 80 x 10 Gbps channels in a single fiber pair, but recent advances in modulation technology mean that with QPSK, 4QAM or 16QAM modulation, 1/80th of a dark fiber pair can carry a 100 Gbps signal in the optical space previously occupied by a single long distance 10 Gbps circuit.

For those in the community using DSL, all your Internet activity, and that of your neighbors using the same DSL service (or Fixed Wireless), is shoved into a 200MB circuit back through Willits, where it is then connected to a larger "pipe" to the Internet itself. Let's say, we the voters/tax payers decide "enough is enough", and somehow mandate open access so that we might have some choice. If we had access to 1/80th of one fiber strand running through our community, we'd have 500% the capacity (and speed) we do today. 1/80th of one strand.

I'm not saying all that capacity and speed would become available to everyone; we live in a sparsely populated community, and many parcels/home may never have the option to connect to much of anything terrestrial. However...imagine being able to invite vendors to access fiber breakout boxes, and deploy Wireless access in the many pockets along the fiber corridor where they could utilize a competitors services. With a proper connection (wireless to a larger than 200MB backbone), subscribers could gain access to Netflix, Youtube, Hulu, Amazon, On-demand broadcasts, Live content, and more. Phone services could be more universally accessible, business would not be limited to 20th Century technologies.

Competition is good, it promotes better and more reliable service. We've all been paying into the Telecommunications Universal Access Fund for decades, isn't it time some of that money can be spent to improve Infrastructure and Competition?