

Continue on to (or wait 15 seconds)

REGISTER | LOG IN

Hot Topics Technology Operations Engineering Governance Organizations Resources IWCE

HOME > COMMENTARY > NETWORKS & SYSTEMS COMMENTARY > MORE AND MORE, WHITE-SPACE USE IS LOOKING LIKE A RURAL PLAY

More and more, white-space use is looking like a rural play

Lynnette Luna | Urgent Communications

Apr 20, 2011

EMAIL
 SHARE
 TWEET
 G+
 Recommend 0
 COMMENTS 0

It's been a while since we've heard of any white-space deployments or trials, but this week Rice University — in partnership with its wireless communications researchers and the nonprofit organization Technology for All, which works to bring technology to underserved communities — announced it will offer prototype in-home white-space hotspots to Houston locals and graduate students involved in putting the trial together.

To users, the new hotspot looks like any other. It can be accessed with any Wi-Fi device, but behind the scenes, the network uses "dynamic spectrum access" to automatically shift between traditional Wi-Fi frequencies and unused spectrum that exists between digital TV channels, in order to provide the best possible coverage.

Spectrum Bridge, which hopes to become a white-space database provider, is the other entity that has been testing the business case for point-to-point solutions in various markets. The company built out a network in Claudeville, Va., a small rural community lacking broadband connectivity, to show how white spaces can bridge the "digital divide." Two years ago, the city of Wilmington, Del., and the county of New Hanover, N.C., launched a white-space network using an experimental license to develop what Spectrum Bridge calls the nation's first smart-city network powered by the vendor's white space database. And last September, Google and Spectrum Bridge, together with the Hocking Valley Community Hospital, announced the deployment of the first white-space broadband network trial for healthcare providers in Logan, Ohio.

Interest in white space hit a fever pitch in 2008 when the FCC voted to move ahead with the conditional unlicensed use of such spectrum as another broadband alternative. But even though final approval from the FCC is in place, the business case for white-space use remains elusive, at least in larger markets.

Urban markets are problematic for white-space technology because geolocation data must be used to determine what frequencies are available for use, in order to prevent interference with other signals, namely TV broadcast signals. However, the heavy use of the spectrum in big markets such as Los Angeles and New York City means that very few channels will be available for use at any given time.

Moreover, the TV band is divided into 6 MHz-wide channels, which threaten to severely limit white-space data speeds. In comparison, 802.11n systems take advantage of 20 MHz to 40 MHz of spectrum and offer data speeds of about 65 Mbps.

Also, the vision of a super Wi-Fi network based on white-space technology in urban areas still needs to be standardized by the IEEE.

Finally, the FCC imposed strict out-of-band emission requirements, which means that Wi-Fi vendors cannot easily convert existing equipment and chips to work in white space spectrum, because additional filtering techniques will be required.

Add it all up and it looks as if white-space technology may be more suitable for rural markets. As recently reported, Carlson Wireless has developed RuralConnect IP, a software-defined white-space radio that delivers wireless broadband service to homes, businesses and municipal entities in rural and underserved areas. The company worked Spectrum Bridge and KTS Wireless — a wireless engineering firm headquartered in Lake

New on Urgent Communications

[Newscan: Video delays misled cops at Stoneman Douglas shooting](#)

[Ritron's NXDN Digital 2-way radio callbox leverages use of wireless technology](#)

[GWTCa announces new president and board members](#)

[Ubicquia solutions transform streetlights into broadband networks to support myriad uses](#)

[AT&T outlines financial terms of FirstNet deal in annual SEC filing](#)

GET MORE HEADLINES

Newsletter Signup

Sign-up to receive our free newsletters

- UC Today - (Twice Weekly) [View Sample](#)
- Breaking News - (Varies) [View Sample](#)
- IWCE's UC Industry Talk - (Varies) [View Sample](#)
- Live from IWCE - (Daily) [View Sample](#)
- Live from APCO - (Daily) [View Sample](#)

E-MAIL*

COUNTRY*

JOB FUNCTION:*

ORGANIZATION TYPE:*

Enter your email above to receive messages about offerings by Penton, its brands, affiliates and/or third-party partners, consistent with Penton's Privacy Policy.

SUBSCRIBE

Connect With Us

Mary, Fla., that specializes in white-space technologies — to develop the radio. The company hopes to receive Federal Communications Commission certification for the device — which is targeted primarily to the wireless Internet service provider sector — in May.

The company has received an experimental license from the FCC to test the radio on lands occupied by the Yurok Tribe in the Klamath River region of Northern California. The tribe is the state's largest with about 5,000 members and its tribal lands cover roughly 63,000 acres of rugged terrain that is marked by a deep canyon that stretches for 25 miles and heavy foliage, conditions that render other broadband wireless technologies ineffective.

So, while white spaces may never become the super Wi-Fi networks in urban areas, folks like Carlson quickly are proving out the business case in rural areas. In addition to the habitants of such areas, public-safety entities looking to find connectivity in hard-to-reach areas also will be the beneficiaries.

What do you think? Tell us in the comment box below.

[PRINT](#) [REPRINT](#) [SAVE](#) [EMAIL](#) [SHARE](#) [TWEET](#) [G+](#) [Recommend 0](#)

Discuss this Article 0

NAME:

Sign In or register to use your Urgent Communications ID

EMAIL:

YOUR COMMENT: *

[SUBMIT COMMENT](#)

Related Articles

- [Questions still abound regarding white-space use](#)
- [TV white spaces could be a boon to rural areas](#)
- [TV white spaces: New frontier could be especially helpful in rural areas](#)
- [Carlson Wireless Technologies white-space radio gets FCC certification](#)
- [Carlson Wireless plans 802.22-compliant white-space radio](#)

Commentaries and Blogs

Let's not just change 911—let's revolutionize it
Posted 1 week ago
in [View from the Top](#)



Some advice for new Statewide Interoperability Coordinators (SWICs)
Posted 4 weeks ago
in [View from the Top](#)



FirstNet's availability should 'raise all boats,' drive public-safety innovation, competition
Posted 5 weeks ago
in [View from the Top](#)



Popular Articles

[How many PSAPs do we need? O'Rielly's challenge could portend a new era for 911 operations](#)

[FCC Commissioner O'Rielly hints at PSAP consolidation as task force begins 911 architecture work](#)

[Body-worn cameras for law enforcement: A really big deal and really, really Big Data](#)

[Are you prepared for LTE?](#)

[South Carolina county turns to Motorola Solutions, Intrado for integrated text-to-911 solution](#)

[Newscan: AT&T, Verizon, Dish rule FCC's AWS-3 spectrum auction](#)

[Broadband, wideband, narrowband: What's the difference?](#)

[Former Nextel execs embark on another PTT venture—and possibly broadband—with Pacific DataVision](#)

[CDC continues to update 911/EMS protocol for Ebola](#)

[Airbus DS Communications—formerly Cassidian Communications—put on selling block](#)

[Top 5 stories: Week of Jan. 26 – 30](#)

UrgentComm.com

[Home](#) [Technology](#) [Operations](#) [Engineering](#) [Governance](#)

Site Features

- [Multimedia Library](#)
- [Newsletters](#)
- [Auctions](#)
- [Sitemap](#)
- [Site Archive](#)
- [View Mobile Site](#)

About IWCE's Urgent Communications

- [About Us](#)
- [Contact Us](#)
- [Advertise](#)
- [Terms of Use](#)
- [Privacy Statement](#)
- [E-mail Webmaster](#)

Search UrgentComm.com



Follow Us



IWCE's Urgent Communications Related Sites

[American City & County](#) [Government Product News](#) [Government Procurement](#) [IWCE](#) [Equipment Watch](#) [Goanalytics](#) [Price Digest](#)

Copyright

Powered by **Penton**[®]

© 2018 Penton